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ABSTRACT

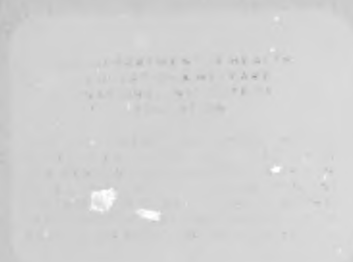
The report of the 14th annual meeting of the Council of Graduate Schools presents a seminar on the Graduate Record Examination (GRE) Board by Lorene I. Rogers, Lincoln E. Moses, Warren W. Willingham, and Herman A. Witkin. The task force on Biomedical Sciences report is presented by Jerold Roschwalb, Lyle V. Jones, Robert H. Grant, and Penny D. Foster. James R. Ritterskamp, Jr. and Willard H. Pedrick discuss legal problems. The involvement of Graduate schools with extension degrees and external degree programs is handled by John B. Ervin, and Cyril O. Houle. An updated view of the academic labor market projections is presented by Allan M. Cartter. Internal and external review of graduate programs is discussed by Frank E. Horton, E. Phillip Bollier, John R. C. Morton, James M. Forman, and Albert H. Berrian. The workshops include the Chicano and graduate education conducted by Rudolph O. de la Garza, and Juan R. Martinez; the administration of graduate programs at institutions without the doctorate conducted by J. Alan Ross, Lawrence H. Rice and James J. Cowgill; administration of professional graduate degree programs by Robert M. Bock, Gail P. Fullerton, and Elmer R. Gooding; graduate schools in the urban environment by Herwig G. Zauchenberger; administration for new graduate deans by George W. Kunze and George E. Hay; master's degrees at non-doctorate institutions by Dale R. Comstock, Lon W. Weber, and Albert H. Yee; and transfer and equivalency graduate credit by David S. Sparks, Charles A. Leone, and Charley Scott. (JMF)

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Proceedings of the Fourteenth Annual Meeting

**COUNCIL OF GRADUATE SCHOOLS
IN THE UNITED STATES**

CGS



PHOENIX, ARIZONA
DECEMBER 4-6, 1974
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Premeeting Activities

Wednesday, December 4, 1974, 9:00 a.m.

GRE BOARD SEMINAR

Lorene I. Rogers, *University of Texas, Austin*
Lincoln E. Moses, *Stanford University*
Warren W. Willingham, *Educational Testing Service*
Herman A. Witkin, *Educational Testing Service*

Report of the GRE Board And its Activities

Lorene I. Rogers

It is a pleasure for me to welcome you to this session this morning and a real satisfaction for me to report on the activities of the Graduate Record Examinations Board. Our purpose in having this seminar is to provide information about the Board's activities as a whole and to bring you up to date on our research efforts in the past two years since our last formal report at the annual meeting of the Council in 1972.

You have already received in the mail within the past week or so a copy of the second annual report of the GRE Board. This report spells out in detail the many activities of the Board in 1973-74 ranging from the operations of the Graduate Record Examinations Program and the Graduate School Foreign Language Testing Program, through the special projects of the Board—the Minority Graduate Student Locator Service, the *Graduate Programs and Admissions Manual*, and the CGS/GRE Board Annual Enrollment Survey—to the research projects of the Board which involved an appropriation of almost \$320,000 this past year. Since you have had or will have an opportunity to read this report, I do not plan to dwell on the information presented there.

Although many of you are aware of how the GRE Board came into being, I am sure there is an equally large group of newer graduate deans who are not familiar with the history of the Board and its real relationship to the Council of Graduate Schools. Since the GRE Board is affiliated with the Council, I would like to take a few minutes to provide some background on why we are here this morning.

Prior to the formation of the Board in 1966, and shortly after the Educational Testing Service was formed in 1948, the Association of American Universities was asked to establish a standing committee on testing to serve as the ETS Advisory Committee on Graduate Level Testing. The Graduate Record Examinations Program was initiated in 1937 when a battery of tests, later known as the Profile Tests, was administered to enter-

ing graduate students at Harvard, Yale, Princeton, and Columbia Universities. It was owned and completely controlled by the four deans of the founding graduate schools in collaboration with the Carnegie Foundation for the Advancement of Teaching. Funds were supplied by the Carnegie Corporation of New York. In January 1948, the Graduate Record Examinations became the responsibility of the newly established Educational Testing Service. Upon the formation of the Association of Graduate Schools in the Association of American Universities, the AGS accepted the responsibility of establishing a standing committee on testing to serve the purpose originally given the AAU committee. The AGS continued to provide a standing committee on testing each year until the GRE Board was formed in 1966, at which time the responsibilities of the AGS Committee on Testing automatically went to the AGS appointees to the GRE Board.

I have gotten slightly ahead of myself so let me go back two years to 1964, when Dean H. Frederick Bohnenblust of Cal Tech, as a representative of the Graduate Deans of the Western slope, wrote to Dr. Gustave Arlt, President of the Council of Graduate Schools, proposing the establishment of a policy-making body to guide the conduct and further development of the Graduate Record Examinations National Program for Graduate School Selection. DR. Arlt forwarded a copy of the letter to ETS and asked that ETS furnish its reaction to the proposal presented by Dr. Bohnenblust. In reply to the request, Henry Chauncey, then President of ETS, expressed pleasure at the prospect of a closer relationship between CGS and the GRE. Pointing out that for many years the Committee on Testing of the AGS had served as an advisory committee for the GRE, Mr. Chauncey suggested that discussions of the proposal be conducted among representatives of ETS, CGS, and AGS.

In September, 1964, the Executive Committee of the Council of Graduate Schools appointed a special committee on testing whose first function was to consult with ETS concerning the establishment of a policy-making group for the GRE. This committee met in early December with representatives of ETS and the chairman of the AGS Committee on Testing. There was agreement on the desirability of establishing a closer relationship between the GRE and the graduate schools broadly and of involving both the CGS and the AGS in any organization that might be established to govern the future development and conduct of GRE tests and testing programs. It was made clear that the interest of the graduate schools with respect to the GRE was in testing for and at the graduate education level.

Agreement was reached at this informal meeting on guidelines for the general structure and responsibilities of a board or council which might be organized to accomplish the desired degree of policy direction for the GRE and to make it more responsible to the needs and desires of the graduate school community. The proposed board would be organized with joint sponsorship of AGS and CGS. Each organization would appoint an equal number of members and these members would elect an additional number. ETS would be responsible for the operation of the GRE under the direction of this Board and would finance the program and the Board's activities from

the test fees which constitute the GRE income.

A tentative schedule of next steps for the development of plans for the establishment of the proposed board was also agreed upon at this meeting. These steps included early discussion of the proposal at ETS and by the AGS Committee on Testing at its next regularly scheduled meeting late in January 1965. It was also proposed that a joint meeting of the AGS and CGS committees on testing be held in March to develop a firm proposal for consideration and formal action by AGS, CGS, and ETS.

The joint meeting of these two testing committees was held in March, 1965. Agreement on a proposal to establish a Graduate Record Examinations Board was reached. Each committee forwarded a copy of the proposal to the Executive Committee of its parent organization with a recommendation for approval. The proposal was approved in May by the ETS Board of Trustees and was endorsed by the AGS and the CGS in their meetings that fall. The original proposal endorsed by the AGS and the CGS provided for the establishment of the Board to become effective January 1, 1966. The first meeting of the GRE Board was held at ETS in May, 1966.

In 1968 a compact was developed between ETS and the GRE Board detailing the responsibilities and obligations of both parties. Copies of the compact have been provided to all past and present members of the GRE Board and are available from the Secretary to the Board, Maryann A. Lear, whose office is at ETS in Princeton, New Jersey. At that time, the Board was given full responsibility for all GRE policies and activities, and the fiscal arrangements were elaborated in considerable detail.

Bylaws for the operation of the Board were also drawn up and approved in 1968. During the previous year, a set of criteria was drawn up by a committee of the Board to assist the Board in making decisions about the introduction of new advanced tests and the retention of those already in the program.

The Board today is composed of sixteen members, each of whom is associated with graduate education. Four of the members have been appointed by AGS, four by CGS, and eight elected by the Board itself. Because of the close working relationship that has developed between the Council and the GRE Board, a resolution was passed by the Board last spring that the President of the Council of Graduate School should be *ex officio* a member of the GRE Board and its Executive Committee.

The Board has an Executive Committee and two Standing Committees—a Services Committee and a Research Committee. You will be hearing from the Chairman of the Research Committee shortly so I will not go into the role and activities of that group. The Services Committee, now chaired by Richard Armitage of Ohio State, was formed a number of years ago in order to improve that articulation between ETS procedures, which result in various forms of output going from ETS to graduate schools, and the needs and procedures within the graduate admissions offices. The Services Committee consists primarily of nonboard members who are assistant and associate deans.

There are a number of advisory and/or policy committees for several

special activities of the Board. The Minority Graduate Student Locator Service has a policy committee chaired by Dean Sanford Elberg of Berkeley, and is composed primarily of members of racial and ethnic minority groups. The *Graduate Programs and Admissions Manual* has an Editorial Board chaired by Dean David Deener of Tulane University.

In addition to these activities, the GRE Board has joined with other policy boards of testing programs, some at ETS and some elsewhere, in the area of financial aid at the graduate school level and for the testing of foreign students in their ability to read and speak English. Specifically, the Graduate and Professional School Financial Aid Service is sponsored by the Graduate and Professional Financial Aid Council. This policy council is composed of representation from the College Scholarship Service of the College Entrance Examination Board, the Association of American Medical Colleges, the Law School Admission Council, the Graduate Business Admission Council, and the GRE Board.

As recently as last spring, the GRE Board and the College Entrance Examination Board joined together to co-sponsor the Test of English as an Foreign Language. Since 1964, TOEFL had been co-sponsored by ETS and the College Board; however, because more than 50 percent of the candidates taking the test were applying to American graduate schools, it seemed entirely appropriate for the GRE Board to be actively involved in the policies of the TOEFL Program.

You have heard me mention Educational Testing Service a number of times in the past few minutes. As the executive agent of the GRE Board, ETS carries out the Board's policies and also has several other responsibilities to the Board. It provides information for the Board, gives technical advice and professional counsel to aid us in the formation of program policy, presents proposals reflecting the Board's policies, and implements those that are approved by us.

Over the past year, a number of articles have appeared in the popular press raising questions about the role of ETS and the various policy boards associated with testing programs. I hope that today's session will provide you with some needed background information regarding, at least, the GRE Board and its relationship to the staff at ETS who carry out our policies.

Time has been provided for a question and answer session after each of our presentations this morning. Please feel free to raise any questions you may have today. If I feel that any of your questions will be answered in the presentations of other speakers on the program, I will ask that they be deferred until later this morning.

Although we will be asking for questions after each presentation, we have also provided time for a general question and answer period at the end of the program. Members of the ETS staff are here to answer any questions you may have for ETS, and the members of the Board will also be happy to respond to any questions posed to them.

Any questions about the Board or its activities?

And, now I would like to introduce Lincoln Moses, Chairman of the GRE Board Research Committee and Dean of Graduate Studies at Stanford.

The Research Program of the GRE Board

Lincoln E. Moses

Ever since its establishment in 1966 the GRE Board has sponsored an active research program and has dedicated six percent of total revenues to its support. I believe three main reasons can be identified in justification of the wisdom of this policy, and they are reflected in three kinds of research activity. The first purpose served by the research program is the improvement of current work methods and results. The second purpose is the development of ways to do additional valuable functions—to enlarge the scope of service of the GREB program; in industry these two might be called product improvement and new product development. The third purpose is to address concerns of the graduate education community where the GREB has a natural facility for helping out; in this area fall non-testing functions which would not include, for example, lobbying for additional federal funds, but would include, for example, informing universities, applicants, and others about the characteristics and numbers of GRE test takers in various disciplines, geographic areas, etc.

I shall briefly discuss examples of these three kinds of research efforts, sometimes looking at past efforts, sometimes at current ones, and sometimes at future directions. My effort will not be to give a comprehensive account, but rather to convey a representative picture of the GREB research program.

Some of the research aimed at improving the present program is rather technical in character. The problem of "equating" is an example. Though we speak of "the" GRE Verbal or "the" GRE Quantitative examinations, we in fact have successive generations and alternate forms of these tests. When we hold in our hand the scores of two applicants on "the" GRE-V, it may be that they in fact took different tests; but we must have confidence that the two scores are actually comparable. This poses the problem of "equating" of tests. There is a long history of research work, and a well-developed body of methods for this task. But it remains an area justifying further research, and some of our research program has gone into that. Another "technical" research effort, not quite finished, explored the application of Bayesian statistical methods (a rather new body of statistical lore) to handling the variability among institutions when relating predictors such as test scores and GPAs to outcomes such as completion of the doctorate.

Another class of research projects directed at improvement of the current program grew out of the welcome fact that the GRE has come to be used increasingly by new constituencies of applicants, in particular minority and ethnic groups. One such research effort was a study of word associations among black and white student; the aim was to construct verbal items appropriate to both ethnic groups. A second such project tried to assess the effects, if any, of coaching or short-term instruction on GRE-Q

scores for Blacks, whites, and Mexican-Americans. Regrettably, this particular study, done at about a dozen different institutions, called for considerable continued efforts from students and instructors and resulted in seriously incomplete data; an observer of this study might be reminded of the biological experiment which reported that "33 1/3% of the animals improved under treatment, 33 1/3% got worse, and the other escaped."

Two further examples of research projects of this first type will be described in greater detail by Dr. Willingham. Both are in the early stages of development. The first is aimed at the possibility of finding satisfactory but substantially briefer forms of the current GRE-V and GRE-Q to enable devoting part of the morning testing session to new kinds of tests; the second is aimed at providing a larger number of subscores in the Psychology Advanced Test in order to increase the guidance and placement value of the Advanced Tests. This latter project grew out of a thoughtful review and proposal from the nationally-based Committee of Examiners comprised of faculty who supervise the Psychology Advanced Test.

The development of new potentials in the GRE Program is a very important function; without this kind of work we would have the same kind of testing program in 1985 that we had in 1965. Sound new development depends in an essential way on sound research. One example of such work was the Critical Incidents Study in which geographically diverse professors of psychology, chemistry, and English were asked to give specific examples of events which they had witnessed as indicating that a graduating student was an effective, strong student, and other "critical incidents" which they had interpreted as showing a graduate student to be ineffective or weak. This kind of information (widely used with success in other personnel contexts) provides the hope of finding better criteria of graduate student success than graduate grade point average, or even completion of the degree. A second project, now in process, grew out of this—the development of behaviorally-anchored rating scales. It is interesting that some of the events that were identified as good indicators occurred in all three fields. When these rating scales are fully developed, they should be valuable in validity studies and as outcome measures for researchers investigating the relevance of background variables, personal attributes, various kinds of interventions, etc., as to their effect on graduate student success.

Two other, and very important, examples of "new potential" research will be discussed in greater depth by the next two speakers. One of these areas is the development of ways to assess "creativity" or "scientific thinking." The other relates to the measurement and interpretation of "cognitive styles"—which, all too briefly, may be described as habits of perception, important in many ways, yet quite distinct from conventional conceptions of "ability."

The third general area in which a large part of the GREB research program operates is that of examining and reporting on general questions of concern to the graduate education community. A publication, *Women, Men and the Doctorate*, is based on a study of the education and careers of Ph.D.s in three different periods, with special attention to how the lives and careers

of the men and women have unfolded, and the satisfaction and dissatisfaction they have experienced. Another project now in progress will summarize information about the hundreds of graduate institutions and programs which are reported individually in the *Graduate Programs and Admissions Manual*. How many students are studying in each of 97 programs? How many faculty are teaching? And how many degrees awarded? Over a period of time, such kind of data should prove valuable to many who are concerned with the flow of talent into graduate education.

Yet another example of research in this "general concerns" area is the *Assessment of Quality in Ph.D. Programs*. The Cartter and Roose-Andersen reports were strictly reputational studies. Additional ways of assessing quality may prove feasible and advantageous. It appears certain that comparative assessments *will be made* because of the many strong demands for them. It is important that the task be done well; otherwise simple entrepreneurship will certainly fill the gap. In consideration of these facts the GREB funded a pilot study in which a sample of about sixty graduate deans, carefully chosen to be balanced with respect to size of institution, public or private status, and geography, were queried twice. First, they were asked "What are the important features of a good graduate program?" When those responses were summarized the deans were asked, in a second survey, to state the importance of the various features and the *feasibility* of acquiring the information. The next step was preparation, in cooperation with CGS, and a proposal for a pilot study. NSF has now funded the proposal, submitted by CGS with work to be accomplished by the ETS researchers who developed the proposal, to run a pilot assessment at about twenty universities in the three fields, chemistry, history, and psychology. The work is now underway. We may hope it will eventuate in a solid methodology for assessing the quality of doctoral programs.

Let me turn now from this (hurried) glimpse of some of the kinds of studies which comprise the research program of the GREB, and speak a bit about the future. For about a year now we have been looking intensively, and somewhat introspectively, at the future of our research program, giving attention to whom we serve, and whom we might serve, thinking about what tasks need doing, and which of them might reasonably be advanced by GREB research—either through in-house support, or by GREB sponsorship for external support. This review process has borne some fruit, and will bear much more. My remarks have in part touched on some of these new aspects. The next speaker, Dr. Warren Willingham, will give a more systematic treatment in his talk "Working Toward a New Agenda in Graduate Admissions." The last talk by Dr. Hy Witkin will treat in detail a single, fascinating, major feature of the work of the new agenda when he describes research on cognitive styles.

Working Toward a New Agenda in Graduate Admissions

Warren W. Willingham

There are several important qualities that tend to determine the basic character and the ultimate effect of graduate education. There is the nature of the student input, the structure and governance of institutions, their functions and programs, their curricula and faculty, and the means by which the whole enterprise is financed. In recent years there have been a number of useful reports on graduate education by various panels and study groups. Most of these have tended to be preoccupied with structure, function, and financing (see Kidd, 1974). Of those important qualities that determine the nature of graduate education, perhaps the least attention has gone to the characteristics of entering students and how they are admitted.

But it seems safe to say that we have been working on a new agenda in graduate admissions for several years; i.e., new values and new priorities in admitting students. Several such priorities have been reflected in the published literature of higher education, in the feedback the GRE Board routinely receives from graduate institutions and advisory committees, and in a background paper recently adopted in principle by the GRE Board (Altman, 1974).

A new agenda implies a need for new responsiveness on the part of agencies and programs that serve graduate admissions. It is also a time of special need for research and development to study how programs might be changed, to develop modifications and supplements that seem necessary, and to carefully validate new approaches. My purpose is to comment briefly on the nature of this new agenda and to describe several new GRE research activities that we hope will be responsive to it.

A New Agenda

Three general priorities seem to describe current values and needs in graduate admissions: the need for broadened educational opportunity, the need for a broadened interpretation of talent, and the need for broadened service to students. As an agenda, these three are certainly not new in the sense of being unknown. Each has been argued before and certainly graduate institutions have made extensive efforts to expand educational opportunity, especially over the past five years. What I would like to suggest is that these three priorities have gained a new consensus and are closely related so that taken together they do constitute a new agenda that has definite implications for change in the GRE Program. Let me comment briefly on these three priorities.

Broadened Educational Opportunity

Since the late 1960's there has been heavy emphasis upon improving minority representation in advanced education. Along with some progress in this endeavor it has also been recognized in recent years that cultural equity is a broader issue. It is not only ethnic groups, women, and older persons who deserve fair access to the benefits of advanced training, but indeed any group of citizens who identify themselves as a special group with special characteristics.

Various prominent bodies have recently spoken to this issue. For example, the National Board on Graduate Education (1974) states:

It has become fundamental to the purposes of postsecondary education that every individual should have the opportunity to develop his or her potential and therefore should not be denied access to postsecondary education because of ethnic, socioeconomic, sex, or age discrimination. This does not mean, however, that every person should be guaranteed access at the graduate level (often argued at the undergraduate level) but rather that certain invidious barriers should not prevent individuals or groups of individuals from attaining advanced degrees if they possess the desire and capabilities.

The final report of the Carnegie Commission on Higher Education (1973) takes a generally similar stand but advises special consideration for past inequities. Thus, while recognizing the importance taking into account individual circumstances, these reports continue to emphasize selective admission and demonstrated talent at the graduate level. Even the Newman report (1973), which is generally regarded to be especially student-oriented, does not emphasize the student's right to attend but rather urges more attention to non-academic accomplishments and evidence of motivation to succeed.

As compared to the undergraduate level where equal representation is often the goal, policy groups currently appear to place more emphasis at the graduate level upon lack of discrimination and the broadest possible interpretation of who can profit from post-baccalaureate training. Individual institutions, of course, continue to work toward the moral demands of affirmative action.

Broadened Interpretation of Talent

The Panel on Alternate Approaches to Graduate Education (1973) recommended that:

Assessments of capacity to pursue graduate work should be based on examination of all relevant information, including evidence concerning motivation and previous on-the-job achievements, and the practice of setting arbitrary cutoff points based on any index of ability should cease.

The GRE Board has long made similar settlements. There is pointed need for more systematic means of including broader information about applicants' abilities and accomplishments in order to provide an improved basis for deciding who has the talent and promise to profit from advanced training. In the report previously mentioned (Altman, 1974) the GRE Board accepted as a working hypothesis that graduate schools place too great a reliance upon the Aptitude Test as presently structured, and that other information needs to be provided on a routine basis so as to provide a broader view of student ability.

Does this mean that conventional measures of academic aptitude are suddenly no longer important? To the contrary, verbal and quantitative aptitude represent general scholastic abilities developed over a lifetime that have been shown repeatedly to be required for most types of academic work. In a time of educational innovation and inflated college grading it is especially important to maintain a standard form of currency for the benefit and protection of students as well as institutions. Why then an interest in additional ways to indicate talent? There are several important considerations.

First, there is serious question that either academic talent or educational outcome can or should be defined largely in conventional scholastic terms. If the educational process is to maintain a balance between scholarly emphasis and social relevance, then there should be a corresponding balance in the ways in which merit is recognized. McClelland (1973) has written persuasively on the importance of stressing real life competence as well as intelligence when we define and measure talent.

Second, as graduate education becomes increasingly diversified, the criteria for success become quite varied as do the talents required for such success. As requirements diversify, the means of selecting students must be relevant to what is expected of them.

Third, there is generally throughout society a shortage of talent, and the surest way to broaden the talent pool is to broaden the definition of talent. This is reasonable if different work requires different talents. It is inevitable that half the population is below average on any particular talent, but consider three talents that are unrelated. It is a simple statistical fact that 88% will be above average on at least one of the three.

Fourth, as graduate education expands in numbers, personal contacts are harder to maintain and it becomes increasingly difficult to give proper heed to special talents that might recommend a student for graduate study.

Finally, there is the changed climate of higher education. Students now feel strongly that education must be relevant to personal development, which, in the case of graduate education, means special emphasis on

preparation for a career and/or self-sufficiency as an independent scholar. Many students greatly resent the implication that verbal and quantitative aptitude tell an adequate story of their education or present a complete picture of their candidacy for further training.

It is principally these considerations—some societal, some institutional, and some individual—that argue for a systematic effort to create a broadened interpretation of promising talent for graduate study.

Broadened Service to Students

In discussing various problems of graduate education, Mayhew and Ford (1974) comment as follows:

The question of support of graduate education is at least widely recognized. In contrast, an emerging issue of potentially enormous significance has been given very little attention. This concerns the degree to which graduate education does or does not attend to the developmental needs of students in their late twenties.

A good part of this need is for institutions to recognize the student as a full partner in his education with an equal right to expect beneficial information from the GRE Program that may be helpful in making educational and career decisions.

A national program such as the GRE is in a unique position to assemble information that can help students understand their characteristics and achievement, their educational development, and their career possibilities. There is, of course, a natural tendency for such an association to give primary attention to the interests of its institutional sponsors. A similar organization, the College Entrance Examination Board, considered this matter in great detail through the efforts of its Commission on Tests.

In its report, *Righting the Balance*, the Commission (1970) placed special stress on the principle of symmetry in undergraduate admissions. This principle referred to the need for a conscious effort to serve students as well as institutions in providing information relevant to important educational and career decisions. In recent years the GRE Program has also given increasing attention to this priority.

These three priorities—broadened educational opportunity, broadened interpretation of talent, and broadened service to students—represent an agenda that has been, and in all likelihood will continue to be, gradually incorporated in the operation of graduate admissions. It is clear that the second, broadening the interpretation of talent, is pivotal. Such a broadened description is important in its own right for all of the reasons already given. But consider the critical effect it has on the other two trends. If educational opportunity is to be broadened on a permanent basis, perhaps the most effective long-term solution is to broaden the way we conceive and deal with

talent. Furthermore, one of the most effective ways that students can be served in the process of graduate admissions is to describe their strengths as individuals and help to clarify their talents in relation to the educational process and their personal goals.

Thus, a keystone in this agenda is the development of more ways to describe systematically a broader range of talents that are relevant to success in graduate study. This is a limited but important role that the GRE program can play. Most of the important decisions, concrete action, and changes in graduate admissions occur at individual institutions; but it is through the GRE Program that institutions are able to effect improvements that would otherwise be difficult. Now I would like to describe briefly several GRE projects that bear upon this agenda.

Research and Development

In recent months the GRE Research Committee has given careful attention to such considerations as those just outlined, and there are in various stages of development five projects that are especially relevant to what I have called a new agenda. I would like to describe those five projects briefly in order to give you a clearer idea of the direction of the Board's thinking and steps it is taking that could eventually result in program modifications. There are, of course, a variety of other Board activities relevant to those three priorities, but the purpose here is to concentrate only upon a few research and development ideas. The following five are couched as questions in order to emphasize that this research and development is in the formative stage. One reason for describing these for you today is to solicit reactions and suggestions as the studies proceed.

Can the GRE Aptitude Test be Shortened?

Any proposal to obtain additional information about students in the GRE Program must first deal with a practical and very important question—how to obtain the information within the time restraints of the existing program? There are mainly three ways: have the student complete an instrument at home, take time from some part of the present testing session, or revise some part of the existing program so as to obtain additional information in the same amount of time. We shall consider examples of all three. First, shortening the Aptitude Test.

The most compelling argument for shortening the Aptitude Test is to create a window of some 25-60 minutes. This would make it possible to insert some additional type of instrument, possibly on an experimental basis. Perhaps more than one alternative could be chosen at the option of a professional field, an institution, or even the student.

Regardless of how sound the technical and educational rationale of the Aptitude Test may be, some students question the exclusive importance presumably attached to that one measure and would prefer to spend some of that time demonstrating other types of competence. From a psychometric

standpoint a full three hours may not be necessary to obtain a satisfactorily reliable and valid measure. For that matter, a recent summary of the validity of the GRE test shows that the overall validity and relevance of the program might be improved by some careful substituting of content (Willingham, 1974).

There are various ways that the length of the present test could possibly be shortened: since some item types are more efficient than others, a different combination of items could save time. Some additional reduction in time might have no more effect than a slight reduction in an already very high reliability. Assuming that some reduction in Aptitude Test length is at least feasible, why has it not happened before now?

For a variety of reasons no doubt, but mainly because of a different set of values we have followed for thirty years or more. The specifications for the present test were developed when very high reliability was considered all-important and when there was limited incentive to use item types somewhat more efficient from the standpoint of time requirements but slightly less preferable for psychometric or economic reasons. Even given various possibilities for creating a more efficient Aptitude Test, it seems inevitable that a shorter test is likely to involve some trade-offs. But with a very different present set of circumstances than when the GRE Aptitude Test was originally designed, it not unreasonable to assume that careful study of alternatives may show the trade-offs to be preferable in light of present priorities and the desirability of fashioning an overall testing program that best serves the current needs of students and institutions.

A task force is presently working on the question and expects to submit a report to the GRE Board in the spring of 1975. If it does prove feasible to shorten the Aptitude Test while retaining acceptable reliability, there are a number of new measures that are being considered as alternatives for any testing time thereby made available. Problem-solving is one general area that offers attractive possibilities. Cognitive styles and creative thinking are two other areas in which GRE is currently sponsoring research.

Is Cognitive Style a Critical Characteristic?

In recent years there has been increasing interest in that area of psychological research known as cognitive style. One can think of cognitive style as the way in which an individual processes information. For example, some people are inclined to take an analytic and somewhat impersonal view of a group discussion. Others may take a more global view of the situation and give special attention to the interpersonal dynamics of what is going on.

Thus, cognitive style often falls in the crack between personality and cognition, having some characteristics of both. Through a great deal of laboratory and field research over the past two or three decades (see Witkin, 1973) it has become evident that:

- There are wide individual differences in cognitive style, and whereas styles are relatively stable, they are to some degree trainable.

- Cognitive style has an important bearing on the sort of work people choose and what they are good at doing.
- Cognitive style also seems to influence how people learn and how they prefer to learn.
- Measures of cognitive style seem largely independent of conventional measures of scholastic aptitude.
- Cognitive styles frequently lack the uni-directional value implications of most ability tests, since high scores often imply success at some activities while low scores imply success at other activities.

Consequently, cognitive style shows great potential as a rather different measure of human functioning that can shed new light on why students choose different courses of study, why they are differentially successful and satisfied with those choices, and how they might be better instructed. For the past two years the GRE Board has supported an extensive longitudinal study linking cognitive style in college freshmen to educational choices and experiences four to six years later in graduate and professional study. I will not go into any detail in describing this work because our next speaker is prepared to do so. Hy Witkin has been eminent in this field for many years; throughout psychology he is widely suspected of being the father of a cognitive style called field dependence-independence—as far as we know the most important cognitive with respect to educational implications.

I will add, however, that the development of useful measures of cognitive style promises to be helpful in broadening the interpretation of talent and in giving students additional information that will be helpful in understanding themselves and their educational and career alternatives. Due to the nature of cognitive styles it appears likely that such measures will have their primary usefulness not in selective admissions but subsequently in career guidance and improved learning.

Can Creativity be Measured Effectively?

Another major project supported by the GRE Board for the past two years is "Development of Measures for the Study of Creativity." In discussing creativity, it is useful to start with three propositions with which most people would likely agree:

- (1) In most Ph.D. programs, and in many master's programs as well, creativity or imagination or whatever one chooses to call it is often considered a critical characteristic of first-rate students.

- (2) Standard instruments such as the GRE Aptitude and Achievement Tests do not, in the opinion of most, get at creative ability as distinct from scholastic aptitude or subject knowledge.
- (3) There is no one creative ability but many types of creative behavior that may differ considerably from field to field.

We use different words for such behavior—creativity, scientific thinking, imagination, originality, and so on. One of the principal problems is the fact that people mean different things when they say creativity. Some mean the ability to produce new ideas; some mean the ability to come up with workable solutions to complex problems; some mean artistic sensitivity; and I suspect some mean whatever it takes to be truly exceptional in a given endeavor. In order to study creativity, it is necessary either to examine real life behavior that people agree is creative or to simulate, in a test situation so to speak, types of behavior that seem to be involved in creativity.

There have been two broad lines of research that correspond to these approaches. One is the study of various types of "divergent thinking" (Guilford, 1967). A standard example of an item that might appear on a divergent thinking test is to ask the individual to name as many uses for a brick as he or she can think of; e.g., to build a wall, to crack nuts, to hold heat on a cold night, to prop open a door, to hurl at a vicious dog, and so on. Some people can rattle off dozens of uses; others go blank after three or four. Of course, this is only one example, but studying people's ability to perform mental gymnastics of this sort has been a useful line of research.

Another major line of research on creativity is to study the lives of individuals who have turned out to be unusually creative people (see Roe, 1952 for a classic study). Probing into the childhood of Nobel prize winners is interesting, but from a research standpoint it is hard to tell what really happened or how such individuals differed from their peers at various critical points in their lives.

So there are inherent shortcomings in each type of research—the former being too far removed from creative behavior of real interest, the latter lacking in scientific control. As Whitehead is reputed to have once said, "There is usually a ditch on both sides of the road." The research on creativity sponsored by GRE is a middle-of-the-road project.

Two psychologists at ETS, Norman Frederiksen and William Ward, are attempting to develop tests that involve divergent thinking but that deal with subject matter that is much more related to the sort of performance required in graduate school. This project focuses upon research creativity in the behavioral sciences.

After trying out a number of ideas, four tests were developed; they are called formulating hypotheses, evaluating proposals, solving methodological problems, and measuring constructs. Students are asked to give what they think is the best solution to a problem but also other solutions

that might be considered. These tests yield such scores as the number of solutions proposed, their average quality, and the originality of the ideas offered. The next step in validating these tests is to explore their relations with a variety of measures of graduate school performance. That work is just now getting underway.

The object of this line of research is, in the words of the investigators, "To create a set of measures that would be useful in studies leading to the development of a theoretical model of the processes involved in creative performance—a model that might eventually be useful in the selection and training of students, in maximizing productivity of scholars, and in contributing to the scientific understanding of behavior" (Frederiksen and Ward, 1972).

Development of useful measures of creative talent will be difficult and perhaps never fully successful but the stakes are high; the relationship of this work to the agenda previously discussed should be evident. Effective ways to measure creative imagination might well be the most beneficial possible way of broadening the interpretation of talent for graduate study.

Can Special Accomplishments be Documented Reliably?

In recent months the GRE Research Committee has given serious consideration to the possibility of developing an instrument through which students could describe a wide array of special achievements and accomplishments—one might call it "an inventory of documented accomplishments." Let me indicate what this might involve and then go into the rationale.

The proposition would be to develop a fairly comprehensive instrument, possibly consisting of two main parts. One part might contain questions and checklists concerning a wide variety of accomplishments at different levels of competence in leadership, science, writing, artistic endeavor, work experience, research in a major field, etc. The objective part might be scorable to produce indices of special competence and motivation. A second, perhaps optional part, would be quite open-ended with respect to content and how the material might be judged. This part would consist of structured free response forms through which students, especially older candidates, could describe in some detail particularly significant accomplishments, developed competencies, or extensive work experience.

Both parts of this inventory might be completed by the student on his own time and submitted as part of his GRE record. There is evidence that students seldom fake on such inventories, but means of control and authenticity would require careful consideration. In principle, the inventory should focus upon documentable accomplishments, and there are various possibilities for having faculty or others sign-off on an inventory prepared by the student. The intention would be to provide a formal record in standard format that could supplement psychometric, transcript, and personal credentials. There are three main arguments favoring such a development.

One argument concerns the intrinsic value of special accomplishments as indicators of real life talent and predictors of subsequent career success. While traditional aptitude and achievement tests predict grader, both tests and grades bear a more limited relationship to many types of life success (Hoyt, 1965). By now, a good deal of research indicates that the best predictors of real life accomplishment in writing, science, leadership, etc., are previous accomplishments in those same areas (see especially, Richards, et al., 1967). The basic implication is that the best way to select students who will excel broadly in graduate school and in professional life is to put more emphasis on direct evidence of similar types of behavior in undergraduate school (see Baird, 1974; Wallach, 1972).

A second argument stems from changes in education. Many students are now entering college at older ages, and there is considerable emphasis upon re-entry and continuing education. Large numbers of undergraduates are dropping out, undertaking service work, and pursuing off-campus experimental education. These facts suggest that increasing numbers of students are likely to have achieved significant learning not adequately represented in traditional credentials. Increasingly, notions of visible accomplishment and developed competences are receiving major emphasis in undergraduate education; that fact needs to be more formally recognized in considering applicants to graduate study.

A third argument stems from a desire of students for an adequate opportunity to describe what they have done and can do. Transcripts and standardized tests are often viewed by students as academic abstractions; the former bureaucratic, the latter artificial, and neither including experience and accomplishments that many students feel have great significance in their lives. Present means of making such representations through application blanks and personal references seem generally regarded as inadequate.

These various arguments make a compelling case in relation to the agenda initially discussed. Such an inventory would seem to promise: 1) a more complete description of talent, particularly different forms of talent than that represented in available measures; 2) enlargement of the talent pool and educational opportunity through recognition of alternate forms of talent; and 3) providing students a better opportunity to represent themselves in ways they consider important.

Can More Information be Obtained from the GRE Advanced Tests?

For several years it has been recognized that it should be possible to obtain more useful information from a three-hour advanced tests than a single total score. Being especially sensitive to the desirability of reporting only subscores that are reliable, the GRE program made a decision to limit development of subscores on Advanced Tests to those which could attain a reliability of at least .80 and which had correlations (corrected for reliability) with other subscores no higher than .90. On that basis subscores were reported for several Advanced Tests for the first time in October of 1972.

Following this experience, it was recognized that less stringent standard of reliability could be applied when subscores are to be used in connection with reversible decisions; i.e., for educational advising and placement as opposed to selection decisions. Furthermore, even less reliable subscores can serve an adequate and very useful purpose when used to report averages for groups of students.

There are several important gains that might be realized from more extensive reporting of subscores. A profile of subject matter competency can be quite beneficial in helping individual students understand their strengths and weaknesses. Such information that is standard for all entering students can benefit the faculty in advising students which beginning courses can best serve their needs. This serves the interests of students by allowing more flexibility in individual graduate programs. Similarly a profile of the content competency for an entering group of first year students can aid the faculty in better understanding the preparation of those students and designing the first year curriculum. Group profiles from students leaving undergraduate programs might assist those departments in assessing the outcome of their programs.

The Committee for the Advanced Test in psychology has had a continuing interest in the possibility of organizing the present test so as to provide additional subscores, and the GRE Research Committee has recently authorized a feasibility study. This would involve regrouping the items and changing a few, not altering the objectives or basic structure of the test. Two complementary methods will be used to develop part-scores: content analysis and factor analysis.

The Committee plans to organize the test so as to produce nine subscores: personality, learning theory, measurement, developmental psychology, social psychology, physiological and comparative psychology, perception and sensory psychology, clinical and abnormal psychology, and applied psychology. Then the test will be analyzed statistically to determine what groupings of items are suggested. The Committee will compare the rational and statistical approaches and recommend how the psychology test should be organized and scored. Hopefully this study will succeed not only in improving the usefulness of the psychology test but will also provide valuable guidelines for other Advanced Tests as well.

I started this paper with the suggestion that we are working on a new agenda in graduate admissions. I have described five lines of research and development that are responsive to that agenda—that represent a conscious effort to keep the GRE Program relevant to the needs of students and institutions and graduate education generally. Each of the five was posed as a question and in each case I believe the answer is at least a qualified yes. You see in these projects heavy emphasis on broadening the definition of talent, increasing the number of people considered talented, and improving the means individuals have for understanding and representing their talents to graduate schools. These emphases are, I would submit, simultaneously egalitarian and meritocratic.

These five studies certainly do not account for all of the research and activities that the GRE program has underway or under discussion, but they are significant ones. These ideas are in the early stages of discussion. Some aspects will be modified, some may be discarded because they don't work; but, of course, that's the nature of research. This work will proceed under the close supervision of the GRE Research Committee; comments and suggestions from the graduate community will be greatly welcomed.

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Educational Implications of Cognitive Style*

Herman A. Witkin

In coming here today, I am repaying a debt I feel I owe to many of you for your help with a longitudinal study we are doing of the role of cognitive style in academic development through the high school, college and graduate/professional school years. To obtain information we needed about students in our sample who may have gone on to graduate school, we contacted 231 graduate school deans. Of these, 218 gave us the information we requested. That is a 94.4 percent return. I am sure that, in large measure, this remarkable response is a tribute to what very nice and cooperative people you and your associates are. I recognize too that it may also reflect the amount of pestering we did. I cherish the hope, however, that, beyond these reasons, the response reflects an interest on your part in the educational implications of cognitive styles. I base this hope not just on an underlying wish but as much on the rather impressive number of requests we received for more information about cognitive styles from the deans of whom we requested information about our students.

I would like to spend the first part of the time available to me by telling you what cognitive styles are. After that I will consider some of the implications of cognitive styles for some issues in education, particularly for problems of career differentiation.

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If we define "cognitive styles" according to the common sense meaning inherent in the phrase, we are not likely to go very far wrong, but we may not capture the full meaning the concept has acquired for those of us who have been involved in its development. In addition, the concept of "cognitive style" has become a slogan to some, and slogans, in the absence of full information, may acquire extra or inappropriate meanings. Since I believe that to grasp the educational implications of cognitive styles requires that the concept be understood in some depth, I would like to take one style and consider it with you in detail, taking it as illustrative of the larger family of cognitive style. The particular style I want to talk about is the field-dependence-independence dimension which has been the most extensively studied cognitive style and is the one in which my colleagues and I have been especially interested (Witkin, Lewis, Hertzman, Machover, Meissner, & Wapner, 1972; Witkin, Dyk, Fatereson, Goodenough, & Karp, 1974).

To explain this style, I would like to go back in history and tell you how the work on it evolved. I do so in order to bring attention to the very important point that cognitive styles had their origin in the laboratory and the concepts and methods of assessment now in vogue reflect that tradition. Its roots in an experimental tradition make the cognitive-style approach different in important ways from the approaches that have come from a more psychometric tradition.

With time so limited, perhaps the best way to make the nature of the field-dependence-independence cognitive style meaningful to you is to show you some of the actual situations we use to identify individual differences in this style. Before showing you these situations, however, let me emphasize that the first ones date from the early laboratory epoch of our work; tasks using such heavy-duty equipment have now been replaced by simpler paper-and-pencil tasks in the assessment of the field-dependence-independence style.

The situation shown in Figure 1 is one of several we developed very early in our work, in an effort to determine how we locate the upright in space. We know which way is up, first of all, on the basis of information we receive from the visual environment around us. The room we are now in, for example, is filled with many proper verticals which correspond to the true upright in space. In addition, however, we also make reference to sensations from within the body itself, as the body continuously adjusts itself to the downward pull of gravity in maintaining upright posture and balance. Ordinarily, the standard derived from the visual field and the standard derived from our bodies coincide in direction, and work together to give us a quick, accurate sense of the location of the upright. What we did in our experiments was to separate these two standards; and, in addition, we got rid of the complex visual world in which we live and substituted for it a simpler, more manipulable visual framework. In the situation shown in Figure 1, the substitute framework is a luminous square frame presented to the subject in a completely darkened room. This frame can be rotated about its center clockwise or counterclockwise. Pivoted at the same center as the frame is a



Figure 1. Rod-and-frame test

luminous rod which can also be tilted clockwise or counterclockwise, independently of the frame. Frame and rod, presented in tilted positions, are the only two items the subject is able to see in the darkroom (although more is shown in Figure 1 because of the light needed to take the photograph). The task set for the subject is to adjust the rod to a position where he perceives it as upright, while the frame around it remains in its initial position of tilt.

Important for the issue of styles was the early finding of marked individual differences among people in how they perform this task. For some, in order for the rod to be apprehended as properly upright, it is necessary that it be fully aligned with the surrounding frame, whatever the position of the frame. So, if the frame is tilted 30° to the right, they will tilt the rod 30° to the right, and when the rod is in that position, they say it is perfectly straight; if the frame is tilted 30° to the left, they require that the rod be moved 30° to the left to perceive the rod as upright. And so for the full range of frame positions in between. At the opposite extreme of the continuous performance range are people who, regardless of the position of the surrounding frame, are able to adjust the rod more or less close to the upright in making it straight. This suggests that they apprehend the rod as an entity discrete from the prevailing visual frame of reference; they evidently determine the uprightness of the rod according to the felt position of the body rather than according to the visual frame immediately surrounding it.

Figure 2 shows a situation which, on the surface, appears quite different from the rod-and-frame situation, but which in its essential perceptual structure is quite similar. Here, the object of perception is the body, rather than an external object such as a rod, and the issue is how people determine the position of the body itself in space. What we do is to sit the subject in the chair, which can be tilted clockwise or counterclockwise; the chair is projected into the small room which can also be tilted clockwise or counterclockwise, independently of the room. The subject's job, after he is seated and the chair and room are brought to prepared tilted settings, is to adjust his body to a position where he experiences it as upright. You can perhaps now see what I meant when I said that this body-adjustment situation and the rod-and-frame situation are structurally similar. In each there is an item—rod or body—surrounded by a visual field—frame or room—and the question is to what extent is perception of the item determined by the surrounding framework. In the body-adjustment situation, we find individual differences in performance very similar to those I described for the rod-and-frame situation. There are some people, who, in order to perceive their own bodies as upright, require that they be fully aligned with the surrounding tilted room. It may be astounding to you—as it was to me the first time I encountered it in a subject—that someone may be tilted as much as 35 degrees, and, if in that position he is aligned with the room tilted at the same angle, he will report that he is perfectly straight, that "this is the way I sit when I eat my dinner," "this is the way I sit in class." These subjects were often my students and I can assure you that I never saw them sitting in class at a tilt of 35 degrees, or anywhere near it for that matter. At the other extreme of the performance range we find people who, regardless of the position of the surrounding

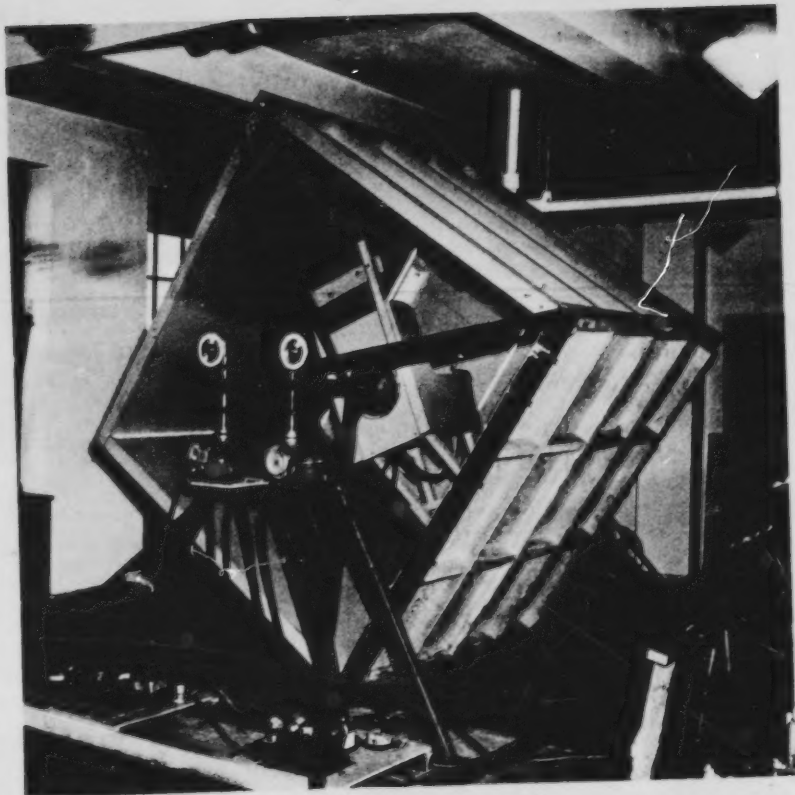


Figure 2. Body adjustment test

room, bring the body more or less to the upright. They seem able to apprehend the body as an entity discrete from the surrounding field, which, in people at the other extreme, exerts such a profound effect on their perception of body position. Here again most people fall between the two extremes I just described. I might interpolate here that when the very same task of making the body straight is conducted with eyes closed, everyone is able to adjust the body to within a degree or two of the upright. The individual differences we have been considering are thus clearly the consequence of the conflict created between the standard up uprightness derived from the surrounding field and the standard derived from within the body.

Finally, we turn to a third situation, shown in Figure 3, which, though appearing strikingly different from the first two—it does not involve perception of the upright or the body in any direct way—is actually again quite similar to them in its essential perceptual structure. In this embedded-figures situation, the subject is shown the simple figure on the left; it is then removed and he is shown the complex figure on the right, with the directive to locate the simple figure within it. What we have done in composing the complex figure is to “use up” the lines of the simple figure in various subwholes of the complex figure, so that perceptually, the simple figure no longer appears to be there. As I describe the situation you can see that it is indeed similar to the first two space-orientation situations we considered. Here, too, the subject is presented with an item—now a simple geometric design rather than a rod or the body—which is contained within a complex organized field—now a complex design rather than a frame or room—and, once more, what is at issue is the extent to which the surrounding visual framework dominates perception of the item within it. Again, individual differences in performance here are very marked, and they are similar in nature to those I described for the first two tasks. For some people the sought-after simple figure more or less “pops out” of the complex design, whereas other people are not able to identify the simple figure in the three minutes allowed for search. Here too, most people fall between these two extremes.

I should mention that in all three situations considered we come out with a quantitative indicator of the extent to which the surrounding organized field has influenced the person's perception of an item within it. In the first two situations the subject's score is the amount of tilt of rod or body, in degrees, when these items are reported to be straight. In the embedded-figures test the score is the time taken to locate the simple figure in the complex design.

Now of importance for the issue of cognitive styles, which concerns us this morning, is the evidence of self-consistency in performance across tasks. If you test the same person in the situations we have been examining, you find that the person who tilts the rod far toward the tilted frame in making it straight, is likely to be the person who tilts his body far toward the tilted room to perceive the body as straight, and he is also likely to be the person who takes a long time to find the simple figure in the complex design. I should mention here that this kind of self-consistency has been found to ex-

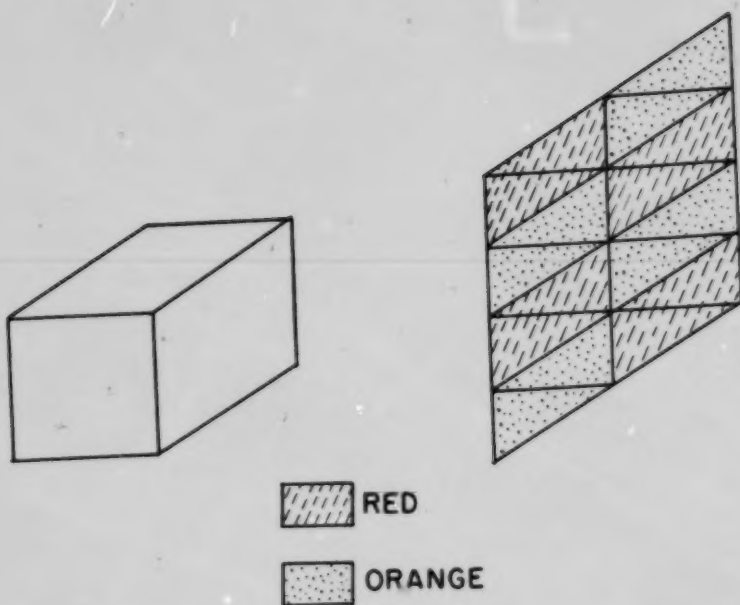


Figure 3. Embedded-figures test

tend across tasks involving sense modalities other than those featured in the three tasks we examined—including, for example, an auditory embedded-figures task, where a simple tune must be located in a complex melody, and a tactile embedded-figures task, where, with eyes closed, a felt-out simple figure, composed of raised contours, must be identified in a complex figure, similarly composed of raised contours.

As must be evident from the descriptions I have given, the common denominator underlying individual differences in performance in these various tasks is the extent to which the person perceives part of a field as discrete from the surrounding field as a whole, rather than embedded in the field; or the extent to which the organization of the prevailing field determines perception of its components; or, to put it in everyday terminology, the extent to which the person perceives analytically. Because at one extreme of the performance range perception is strongly dominated by the prevailing field, we designate that mode of perception as "field dependent." At the other extreme, where the person experiences items as more or less separate from the surrounding field, we use the designation "field independent." Because scores from any test of field-dependence-independence form a continuous distribution, these labels reflect a tendency, in varying degrees of strength, toward one mode of perception or the other. There is no implication that there exist two distinct types of human beings.

I would like to point out that people are likely to be quite stable in their mode of perceiving, even over many years (Fatherson & Witkin, 1970; Witkin, Goodenough, & Karp, 1967). I should also point out—though for obvious reasons I tell you this with some trepidation—that in Western societies there are small but persistent sex differences in field-dependence-independence beginning in adolescence. Women, as a group, tend to be more field dependent than men, as a group. It should be stressed, however, that the difference in mean between the sexes is quite small compared to the range within each sex; the distributions for the two sexes show considerable overlap. Evidence from recent cross-cultural studies that sex differences in field-dependence-independence may be uncommon in mobile, hunting societies and prevalent in sedentary, agricultural societies—societies which are characteristically different in sex-role training and in the value attached to women's role in the economy—dramatizes the important role of socialization in the development of sex differences in field-dependence-independence (Witkin & Berry, *in press*).

As I said earlier, in place of the rather complex gadgets required for some of the early laboratory tests of field-dependence-independence there are now available simpler devices. For example, there has been developed a small table-top model of the rod-and-frame apparatus, which can easily be transported to where subjects are to be found and which makes a dark room unnecessary (Oltman, 1968). We have also developed a group form of the embedded-figures test (see Witkin, Oltman, Raskin, & Karp, 1971); and, with GRE support, Richard Reilly and Thomas Donlon of ETS are now developing a machine-scorable embedded-figures test, which will make large-scale testing practical.

Thus far I have been talking about the ways in which people deal with immediately present stimulus configurations, in other words, how they perceive. Extensive evidence, accumulated over the years, shows that the style we first identified in perception manifests itself as well when the person is dealing with symbolic representations, as in thinking and problem-solving. The individual, who, in perception, cannot keep an item separate from the surrounding field—in other words, who is relatively field dependent—is likely to have difficulty with that class of problems, and, let me emphasize, *only* with that class of problems where the solution depends on taking some critical element out of the context in which it is presented and restructuring the problem material so that the item is now used in a different context. Let me give you an example of such a problem, of a kind used by Frances Harris (personal communication): The subject is given a stick and asked to make it fit across an open doorway, but the stick is too short and subjects quickly realize that they need some kind of wedge to keep the stick in place. The experimenter, in his tricky way, has in fact left a wedge of the right size available in the experimental room. On a table is a bottle with a stopper, which is of just the right dimension to extend the length of the stick by the required amount. Obviously, in order for the stopper to be used as a wedge, it must be taken out of the functional context in which it is serving—stopping up a bottle—and used in the different, less commonplace context of serving as a wedge. Here, as in the perceptual tasks we considered earlier, what is at issue is the degree of influence of a prevailing context. Harris found that people who were field independent in the laboratory test of perception more easily disembedded the stopper from its bottle-stopping context for service as the needed wedge.

So, as you can see, we are dealing with a broad dimension of individual differences that extends across perceptual and intellectual activities. Because what is at issue is the characteristic approach the person brings with him to a wide range of situations, we call it his "style," and because this approach encompasses both his perceptual and intellectual activities, we speak of it as his "cognitive" style.

There is now a good deal of evidence that the style we are discussing extends into other psychological domains, beyond cognition. This evidence makes it clear that persons who are relatively field-dependent or field-independent are different in particular person characteristics. I would like to consider just one set of characteristics, those in the domain of social behavior. These characteristics, taken in the collective, suggest that relatively field-dependent persons, in contrast to more field-independent ones, are likely to be attractive to and make use of prevailing social frames of reference, just as in the laboratory tests you have seen, they rely on the prevailing visual frame of reference; they thus show self-consistency in what they do across cognitive and social situations. Let me cite some of the evidence which provides support of this statement.

Relatively field-dependent people are more likely to attend to and take account of others' views in defining their own attitudes, feelings and self-view (for example, Bell, 1964; Deever, 1967; Linton & Graham, 1959). They

are also selectively attentive and sensitive to the social content of the surround. Thus, they literally look more at the faces of others, which is a primary source of information about what others are feeling and thinking (for example, Konstadt & Forman, 1965; Nevill, 1971; Ruble & Nakamura, 1972); as a consequence they are better at remembering faces (for example, Crutchfield, Woodworth, & Albrecht, 1958; Messick & Damarin, 1965). The selective interest of relatively field-dependent in the social surround is not limited to faces. They also attend more to verbal messages with social content, even when these messages occur in the periphery of attention; as a result, field-dependent persons are superior to field-independent ones in learning and remembering social kinds of verbal material. A brief illustration may help concretize the picture: In one study (Fitzgibbons, Goldberger, & Eagle, 1965) the subject was given a learning task to perform, while in another part of the room, separated by a curtain so that sounds could get through, a "planted" experiment was conducted which required the "planted" subject to call out words. Among these words were some that had social connotations and others that were neutral. The "real" subject was shocked when, at the end of the experiment, he was asked to list any words he could recall having heard from the other room; afterwards he was given a recognition test as well. On the social words the relatively field-dependent subjects were significantly better than the more field-independent ones by both the recall and recognition measures; there was no significant difference for the neutral words.

Also reflecting on the "social" orientation of field-dependent persons is their use of interpersonal space. Studies have shown that they like to have people around them and even to be physically close to others (for example, Holley, 1972; Justice, 1969). As a further real-life indication of their social orientation, field-dependent persons, as we shall see, are more likely to choose careers in which involvement with others is a central feature.

I trust that even these few examples from large literature now on record provide convincing evidence of a more social, "with-people" orientation to the environment among field-dependent individuals, and of a more impersonal orientation, with greater interest in abstract aspects of the environment, among field-independent individuals. I trust you can also see in these examples evidence of self-consistency across psychological domains. With such evidence it is possible to say that field-dependence-independence is a manifestation in the perceptual sphere of a broad dimension of personal functioning which extends into the sphere of social behavior and into the sphere we ordinarily call personality as well.

Using what I have said about field-dependence-independence as a basis, let me now enumerate the essential characteristics of cognitive styles.

First, they are pervasive dimensions. They cut across the boundaries traditionally—and, I think, inappropriately—used in compartmentalizing the human psyche and so help restore the psyche to its proper status as a holistic entity. Second, they are stable over time. Third, they are defined in process terms, a natural consequence of their origin in laboratory studies where process is the central issue.

Fourth, with regard to value judgments, cognitive styles are bipolar, rather than unipolar as are the usual abilities dimensions. On any abilities dimension, to have more of it is better than to have less of it. With cognitive styles, on the other hand, each pole may be seen as having adaptive value, and so judged positively in particular circumstances. This is clearly evident in the case of the field-dependence-independence style, where the cluster of analytical cognitive competence plus an impersonal social orientation, at one pole, and the cluster of a strong social orientation plus less analytical competence, at the other pole, may each be seen as especially suited to meet the requirements of particular tasks. When I come to discuss career differentiation, I will provide a number of examples, but here let me give just one illustration. In a recent study (Quinlan & Blatt, 1972), psychiatric student nurses who were judged to be good by their mentors were compared on tests of field-dependence-independence to surgical nurses who were judged to be good. Whereas the psychiatric group proved to be relatively field-dependent, the surgical group was relatively field-independent. This outcome is not surprising when you consider the tasks to be performed in psychiatry and surgery. Effective work in psychiatric nursing leans heavily on an interest in people and on social sensitivity, but not particularly on analytical skills. These are characteristics of the relatively field-dependent individual. In contrast, surgical nursing does not call particularly on social interests and sensitivities; too often the surgical nurse's encounter with her patient is limited to a small segment of the patient's exposed abdomen. Her success as a surgical nurse is likely to depend more on her skill in quickly disembedding the correct forceps from a complex array of instruments on a surgical tray.

As I have pointed out elsewhere (Witkin, 1974) the more neutral character of cognitive styles, deriving from their bipolarity, makes it less threatening and therefore easier to communicate information about an individual's cognitive styles directly to him, than it is to convey some kinds of information about his abilities, as, for example, telling him he has a low IQ. In a period when we are seeking ways of using evaluation procedures to serve the student himself, rather than the institution, this feature of cognitive styles is indeed an important advantage.

A fifth characteristic of cognitive styles is that they can be assessed by nonverbal (perceptual) means. This is a feature which also stems from the origin of cognitive-style work in the laboratory. Modes of perception, as we have seen, stand for broad stylistic dimensions. To the extent that perception can be assessed by objective, controlled, and even laboratory techniques, perceptual performance may be used as a measurable "tracer" for identifying an individual's cognitive style. The use of nonverbal techniques to get at an individual's cognitive make-up helps avoid the penalty suffered by students out of the mainstream culture on our commonly used heavily verbal assessment procedures (Witkin, Faterson, Goodenough, & Birnbaum, 1966).

As a final characteristic to be mentioned, cognitive styles, reflecting their pervasiveness, carry a message about what we traditionally call "per-

sonality." So, it is a feature of personality, and not alone of cognition in the narrow sense, that an individual likes to be among people, is particularly attentive to what others say and do, and takes account of such information in defining his own beliefs and sentiments. It is something of a paradox—but on the surface only—that tests of cognitive style have potential value in assessing what we call "non-cognitive" attributes.

With what I have said about the nature of cognitive styles as background, let me now turn to the educational implications of the work on cognitive styles. I have chosen in the time I have to focus on their implication for career differentiation, but I would just mention some other implications now being pursued which appear quite promising. For example, evidence is now beginning to emerge that relatively field-dependent and field-independent individuals tend to use different strategies in their learning activities. The strategies favored by the one kind of person do not necessarily make for better achievement than the strategies favored by the other kind. Whether one set of strategies will lead to a better learning outcome than the other depends rather on the nature of the specific learning task and the particular circumstances under which learning takes place. It is not unreasonable to expect that knowing about the learning strategies a student favors, as a function of his cognitive style, may help us identify teaching approaches best suited to him. Another educational implication of cognitive styles we, and others, are currently investigating stems from the observation that teachers with different cognitive styles perform differently in the classroom. Still another educational implication of cognitive styles—and to me a particularly exciting one—is to be found in the consequences of match or mismatch in cognitive style of participants in an interaction. There is now evidence that teachers and students similar to each other in cognitive style show greater interpersonal attraction; and, in fact, teachers value more highly the cognitive, and not only the personal characteristics of students similar to them in cognitive style (DiStefano, 1969; James, 1973). Similar match-mismatch effects have been observed in studies of patient-therapist interactions (Folman, 1973; Greene, 1972) and peer interactions (Welkowitz, personal communication).

The area of career differentiation to which I now turn is of particular relevance to your interests, I believe, and it is also an area in which there is now a considerable body of evidence.

Because of their bipolar nature, cognitive styles are more useful in guidance than in selection, generally speaking. Admissions committees faced with the selection of such heterogeneous groups as a college class, understandably want measures with cut-off points which separate the less promising from the more promising applicants. For such general-purpose efforts, unipolar dimensions may serve in a way that bipolar dimensions, such as cognitive styles, cannot. With cognitive styles, as we have seen, the emphasis is on the ways in which persons toward one pole or the other are different, with regard to the settings in which they can best function. One circumstance in which cognitive styles could prove useful in selection, however, is when candidates are being sought for a rather specialized situa-

tion, which specifically calls for the attributes found toward one pole or the other of the style.

The evidence bearing on the potential value of cognitive styles in career differentiation comes from two main sources. One is a large literature that has accumulated in the journals over the past few years, recently reviewed in part elsewhere (Witkin, 1973). The other is the longitudinal study I mentioned at the outset, now being funded by the Graduate Record Examination Board and supported at its inception by the National Institute of Mental Health. The population in this study was one entire class of approximately 1600 students in a large municipal college. On entering, in 1967, they were assessed for cognitive style, and were able to obtain from the college other data about them, as their full high-school transcripts, their SAT scores, and so on. Four years later we obtained the complete college transcripts of those who made it through to graduation. In addition to obtaining all this information about the entire class, we also made our own study of a selected subgroup to whom we gave an extensive battery of tests over the course of their four years in college. For those in the class who went on to graduate or professional school, we have information about their movement into postgraduate work, which I will describe later. As you can see, this study gives us an opportunity to pursue the implications of an individual's cognitive style for various facets of his academic development over a 12-year period: through high school, college and graduate/professional school. It is an obvious advantage of the longitudinal design we are using, over cross-sectional data, that we are able to trace the academic evolution of the *same* students.

There are a few basic facts I should give you at once, as background for examination of the evidence on career differentiation. First, there is very little overlap between measures of cognitive style and measures from the standard selection tests now in use, such as the SAT and GRE. Information about cognitive style is thus adding something to the hopper not now being tapped by such tests. Second, there is essentially no relation between cognitive-style measures and college grade-point average. In our longitudinal study, for example, with a large N of 1600, the correlation between measures of field-dependence-independence and college grade-point average was only .04. There are many studies in the literature which confirm this finding. Relatively field-dependent and relatively field-independent students are thus not different in how they come through college on a gross achievement measure such as grade-point average. However, they are different in the mix of courses in which they earn essentially the same grade-point averages. This observation is consistent with the idea that general-purpose selection, as for college, is not "where it is at" for cognitive styles.

I want to summarize for you now the body of evidence which shows that cognitive style is an important factor in academic interests, choices and performance, and in the closely related domains of vocational interests, choices and performance. I would recall here that when we use cognitive style to predict such behaviors, we base our predictions on a *cluster* of constituent

characteristics subsumed by the style. Within the cluster, some characteristics may be highly relevant to a given academic or vocational area and others not particularly relevant.

As a general principle, relatively field-independent persons, as a group, are likely to favor domains where their cognitive skill—analytical competence—is called for and where relations with others are not especially involved. In contrast, relatively field-dependent persons, as a group, are likely to favor domains with a "people" emphasis—that is, which feature human contact and which involve interpersonal relations in daily on-going activities—and for which analytical competence does not particularly matter.

Let me consider specifically, first of all, *interests*, as expressed in standard interest inventories. It has been found repetitively, that the responses of relatively field-independent persons to such inventories indicate interests consistent with those, for example, of: architect, mathematician, physicist, engineer, chemist, biologist, computer programmer, mathematics/science teacher, statistician. Relatively field-dependent persons are more likely to respond in ways that place their interests with those, for example, of rehabilitation counselor, minister, social science teacher, probation officer, salesperson (for example, Clar, 1971; Crutchfield & Starkweather, 1953; Pierson, 1965; Scheibner, 1969). These lists are illustrative rather than exhaustive.

Congruent with these differences in preferences is the evidence on differences in *attitudes* toward academic domains. For example, relatively field-independent person have been found to show more positive attitudes toward science, and with it more leisure-time investment in science.

When we consider academic *choices*, we find a very similar picture to that described for interests, though choices represent an actual commitment to a domain and so are "harder" expressions of academic orientation. Specifically, we find relatively field-independent students likely to enter such fields as, for example, natural sciences, engineering, mathematics, architecture, experimental psychology; relatively field-dependent students are likely to enter such fields as, for example, sociology, humanities, elementary school teaching, clinical psychology (for example, Chung, 1966; Kangas, 1970; Nagle, 1967; Peterson & Sweitzer, 1973). Again, these lists are illustrative, rather than exhaustive.

Turning to academic *performance*, we find, not surprisingly, that the evidence is consistent with the evidence for academic preferences and choices. For example, among students who choose the natural sciences and mathematics domains—students who as a group are relatively field-independent, as we just noted—those who are more field-independent tend to do better than those who are less field-independent (for example, Hunt & Randhawa, 1973; Rosett, Robbins, & Watson, 1968; Stein, 1968). Not much has yet been done to investigate the relation between cognitive style and performance in the social sciences and humanities. What little evidence there is suggests that there may not be much of a relation for reasons I will go into later when, in connection with the problems of shifts in major, I will con-

sider some of the differences between the sciences/mathematics and social sciences/humanities domains.

The picture for *vocational* interests and choices, in relation to cognitive style, is so similar to that for academic interests and choices that I will not take time to review it. The reasons for this similarity are obvious; in fact, the overlap between the academic and vocational domains is so great that many studies do not attempt to separate them but treat "educational-vocational" as an entity. With regard to vocational achievement and cognitive style, little has been done, but the evidence that is available is consistent with expectations. Relevant here is the study I already cited in which student nurses who did well in psychiatry tended to be field dependent, whereas student nurses who did well in surgery were relatively field-independent. Also relevant here is the finding from a study by MacKinnon (1961) that practicing architects selected as outstandingly creative by their peers were markedly field-independent whereas writers similarly selected were quite field-dependent. As a noteworthy side finding, on a test of verbal ability, the two groups shifted their ranking among the occupational groups compared, the writers moving to a top ranking and the architects to a low ranking.

I have thus far talked about differences in academic and vocational preferences and choices *between* domains of relatively field-dependent and field-independent persons. Congruent with those differences are differences in preferences and choices *within* domains, in the case of domains which have some room for diversity. Table 1 lists on each line in the left-hand column, the preference/choice of relatively field-dependent individuals, as identified in one or more studies (for example, Chung, 1966; Clar, 1971; Nagle, 1967; Pierson, 1965; Pollack & Kiev, 1963; Quinlan & Blatt, 1972); in the right-hand column, on the same line, we see the preference/choice, in that same educational/vocational domain, of relatively field-independent individuals

Table 1

Preferences/Choices of Relatively Field-Dependent and Field-Independent Individuals within Educational-Vocational Domains

<i>Field Dependent</i>	<i>Field Independent</i>
Clinical psychology	Experimental psychology
Psychiatric nursing	Surgical nursing
Psychiatric practice favoring interpersonal relations with patients	Psychiatric practice favoring impersonal forms of therapy
Business personnel director	Business production manager
Business education teacher	
Social studies teacher	Natural science teacher
Elementary school teacher	Industrial arts teacher

There is another finding on career differentiation worth noting. This is the observation that cognitive style begins to influence career pathways quite early in life. So, for example, relatively field-independent elementary and high school students were found to show more leisure-time interest in science, to have more positive attitudes toward science and they earned higher science grade-point averages (for example, Bowles & Boss, 1974; Cline, Richards, & Needham, 1963; Vernon, 1972). As another example, in our longitudinal study, the relatively field-independent students tended to take more advanced optional mathematics and science courses already in high school.

Because shifts in major are not uncommon among students, and the bases of the shifts sometimes puzzling, I would like to say a word on the role of cognitive style in shifts in major. From our longitudinal study we have evidence of self-adjusting career shifts, during college, toward greater congruence between the domain chosen and cognitive style. In that study students were asked about their intended major at the time of entry into college. These choices were then compared to the actual major they ended up with. There were two interesting observations about shifts in major which were, by the way, quite frequent. First, shifts were far more common out of math and the sciences than the other way around. Second, it was the relatively field-dependent students who contributed particularly to the shifts out of math and the sciences. We are inclined to interpret these outcomes in the following way: Math and the sciences are "narrow gauge" disciplines; it is not possible to manage in them without a degree of analytical competence. Accordingly, field-dependent students who chose these domains are not likely to survive in them, and have to shift their major. On the other hand, the social sciences and the humanities are "broad-gauged" disciplines, in the sense that they are diverse in their content and therefore in the range of characteristics suitable for adequate performance within them. Take psychology as an example. At one extreme of this broad domain we have the cluster of experimental, physiological and mathematical psychology; at the other extreme we have clinical, social and personality psychology. Within psychology, there is therefore much elbow room, so that a person who has entered it with the intention of specializing in areas at the one extreme may, to his greater comfort, move to the other extreme without leaving his initially designated major of psychology. I will remind you here of the finding that whereas graduate students in the clinical psychology program of a particular graduate school were found to be relatively field-dependent, students in the experimental psychology program of the same school tended to be field-independent. This conception of the social sciences as "broad gauge" disciplines seems consistent with the suggestion noted earlier, from the evidence of the few studies done on the issue, that there may be little relation between cognitive style and achievement in the social sciences, compared to the strong relation established between cognitive style and performance in math and the sciences. While cognitive style seems to influence the *choice* of the social sciences as a major, once the choice is made, relatively field-dependent and field-independent students may both

do well, although in different parts of the spectrum represented in the discipline.

Finally, I want to make mention of some findings on sex differences, in part for their own significance and in part to suggest the importance of taking sex differences into account in considering the relation between cognitive style and career differentiation. Let me report two observations from our longitudinal study which suggest that sex-role stereotypes may moderate the role of cognitive style in career choices and performance in important ways. First, we noted that women in our sample who majored in math, were, without exception, in the top quartile of the Math SAT and in the most field-independent quartile on the test of that dimension we used. Men who majored in math showed much more scatter in scores from both these tests. A reasonable inference to be drawn from these findings is that women who step out of their traditional sex role, as they do in choosing to major, must really be good, both in their eyes, in order to present themselves as candidates, and in the eyes of those who do the selection.

A second observation involving sex differences I want to mention is that whereas only 2% of the men in our sample ended up as education majors, 28% of the women did so. Obviously, since more than a quarter of our women fell in this group, there must have been quite a range among them in cognitive style. Though the tendency is for education to be chosen by relatively field-dependent persons, in the case of women the sex-role stereotype that "teaching is a woman's work" appears more influential than cognitive style in determining the choice of education as a major. It is not surprising that, again reflecting the influence of sex-role stereotypes, twice as many men as women in our sample majored in the sciences.

I will stop now and simply say that, as analyses of the data from our longitudinal study progress, I trust we will be coming up with findings of particular relevance to your own interests in the graduate school situation. As I mentioned earlier, our longitudinal study has now taken us into the graduate school and professional school period for those in our original sample who sought postgraduate training. We now know for each of the students in our sample whether they applied to graduate school, and, if so, to which ones; where they were accepted, if anywhere, and where rejected; if accepted, whether they matriculated at the school; and, finally, if they matriculated, their area of specialization. We have similar information on postgraduate training in the various professional areas. In time we hope to obtain information for those who went on to graduate school—by the way, are now in their fourth year—as to whether they achieved an advanced degree and possibly some indication of their performance. The special research handle that the longitudinal nature of our study gives us is that it allows us to see how early in academic life cognitive style influences career development in the direction of graduate school and the choices made in graduate school.

What I have said today is to be regarded as a progress report, to be supplemented later by further reports as the analyses of our data progress.

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Task Force on Biomedical Sciences

Wednesday, December 4, 1974, 9:00 a.m.

Moderator: William H. Macmillan, *University of Vermont*
Jerold Roschwalb, *National Association of State Universities
and Land Grant Colleges*

Lyle V. Jones, *University of North Carolina, Chapel Hill*

Robert H. Grant, *Federation of American Societies for
Experimental Biology*

Penny G. Foster, *National Science Foundation*

The Federal Legislative Process and Education

Jerold Roschwalb

It is traditional—and a pleasant, defensible tradition too—for guest speakers to open their remarks noting their pleasure at being present at the subject gathering and expressing gratitude for the privilege extended to them. I can think of several personal reasons for perpetuating this tradition. To me—for most of my adolescence and early adulthood—the world represented by the accomplished participants of this meeting was a realistic, attainable and noble state within civilization which subsumed much of that which man strove to become and to be.

Indeed nothing of my experience up to adulthood—in those less enlightened days that meant twenty-one years of age—suggested the scholarly life had any peer or that the scholar pursuing study and learning, and who was above all a teacher, was not precisely the platonic golden man whom a better time would harken to with well deserved results.

Then—and at times even now—the tawdry and dissonant world of *realpolitik* was deserving of study but not of emulation and thus the paradox of my theme this morning.

As an elected representative to the rank and tenure committee of the English department of a major public university some fourteen years ago, I discovered what skillful politics practiced with lethal finality was all about. By comparison, the petty manipulation and contract award games played by Brooklyn Democratic clubs was child's play. Why then should academia be expected to listen to a primer in brief of how things are done in our nation's capitol?

I came to know a little of the academic hemisphere represented by this audience in the days of the early and mid-1960's. At the invigorated Smithsonian Institution, come to new spirit with the arrival of Dillon Ripley a decade ago, I worried how to attract doctoral candidates to the museum collections to write dissertations there under joint guidance of campus and

Smithsonian faculty—a program still in progress. No one I respected questioned the value, purpose, or goal or object of such work. Perhaps not since the talmudic academies of Babylonia was learning for its own inherent sake given so much freedom, so much assistance, so many plaudits. It seemed for a brief and brilliant moment that the world could be divided into the ancient biblical tribes of Issachar and Zebulon, the one to pursue the quest of study and learning, the other to reap satisfaction from providing fiscal and other material support for such study.

Oh, indeed, a bit of flim flam may have been required. The yahoos from the boonies could not value the Greek and Latin classics. But toss about a couple of anecdotes of Oxford dons operating from behind the German lines and whisper about a World War II O.S.S. and, by heavens, the citizenry would underwrite higher education universally.

Those were the days in the NDEA Title IV Program. It was my good fortune to meet Dr. Louis Venuto there and our good fortune that he remains there prepared to administer graduate programs as dollars permit. That program too was home for a while for John Ryan, the Graduate Council's able assistant to the President, whom I likewise am privileged to call friend and colleague.

We dreamed then and talked and even planned for the establishment of great new graduate study and research centers, never doubting the rightness or the basis of support for such ideas. We met informally, I recall, in a group called the federal fellowship administrators and for several years compared notes on whose program was growing faster, as such accomplished craftsmen of government agency administration as Tom Fontaine, Harry Dukas, Frank Hansing, Jim Blessing and others developed policies that led to the extraordinary enhancement of postbaccalaureate study in this nation's academe.

To be sure the authorizations and the appropriations had to be written and passed—but the sails were filled with favorable winds and if getting to the moon was a goal, the universities—if given the wherewithall—would see to it that we got there. We are all aware of how the job markets turned around, and how a Congress seemed to become more interested in affirmative action in hiring practices than in financing new and broader hiring and training.

Then, the question still remains, how is it done? How does a law become a law? Who writes the text? How is it changed? Who is in charge? How do you get to him? To her? Or around both of them? What makes the difference in federal legislative behavior?

Some things are not complex. We all know the textbook tale of how laws are made. A need is identified or created and an idea for responding to that need is developed. Some members of Congress frame that idea into the form of a bill. Into the legendary hopper it goes—out it comes bearing a number, off it goes to a committee and then to a subcommittee. Judicious members attend hearings and learn and decide the penultimate shape of the bill. It is amended and brought to the floor or each house where it may be amended again. It is passed. Conferees of the two houses meet and compromise on

differences. Back it goes to the floors for passage and off to the White House for signature leaving nothing but the executive agency to administer it.

And that's what really happens. The textbooks are correct. It has been noted that if some factors are constant in a social situation they need not be worried over, that is, their inevitability obviates practical behavior. The only problem with the textbooks' description of the legislative process is that perforce it omits discussion of personalities. Legislation comes into being because men and women act. The textbooks can allude to interest groups and political cabals and sundry other real motivating ingredients in the process. The textbooks cannot—if only because of the variety involved—deal with such constraints as the tyranny of the gonads, the comparative metabolic absorption rates of alcohol, the yearning of egos for travel, plain jealousy, competition, sophisticated vengeance or the quest for fame or fortune. But all of these constraints are ubiquitous in the process forming the shadow that falls twixt the conception and the creation. Perhaps the subtitle of this talk should be "things you always wanted to know about legislation but were smart enough not to ask," or as Roy Millenson, formerly of the Senate Labor and Public Welfare Committee staff has noted: "There are two things you should never watch being made—sausages and legislation."

The story of the enactment of a law or any amount of substance whatsoever, is a microcosmic unravelling of the history of human activity and the wondrous mystery of the human psyche. Victory in this entertainment—this "dance of legislation," as that extraordinary book described it—almost always goes to the near fanatic. Total dedication, absolute commitment, and above all passionate certainty make the difference. Those endowed with the arrogance of being possessed of final truths, those who do not swerve in their greed for profits, be they monetary or otherwise, prevail. Those who are tireless in their efforts, whose stamina is second only to comic strip heroes, who keep coming back again and again make legislation what it is. Perhaps it is a cliché, and perhaps because clichés are born of fact, in the words of a former heavy weight boxing champion, "you don't win if you ain't real hungry."

So much for those who want legislation to be written and passed, the interest group—us. What about the actors on the stage? Up front, visible, vocal, and remarkably prudent are the "principals," the "members,"—the Senators and Representatives.

The typical Senator sits on half-a-dozen committees and serves on many more subcommittees. With some seniority he chairs the subcommittee, with more the full committee. He has six years between election and precious little time to get to know the issues in the scores of pieces of legislation on which he must vote. He has power, the power of the vote to give life to a new bill or to inter it prematurely.

In the chair he can decide which bills come to the full committee's attention and which remain potential. He is dependent on his colleagues—he has needs their power can help fulfill. He has values and principles, he represents a constituency, he has dreams of the future and can do something to affect it. But he is ultimately responsive to his constituency. He is a college

graduate, often an attorney. He relies for guidance and advice on academic and business experts. He enjoys the power of getting things done for his constituents and he knows the price of every act he makes. Ultimately, he is prudent. And he is unbelievably dependent on his office staff to make his day possible and on his committee staff to sort out the urgent from the desultory, the wheat from the chaff and the important chaff from the just plain chaff.

Committee staff are at the heart of legislative activity. They claim to serve the chairman and committee members and they do. The best can speak for their principals and can almost act for them, having learned from long years of work the mind and spirit of the "Senator." But they, too, have power, they often stand between the Senator and the claimants for his attention. They interpret the demands of the claimants to the Senator, organize hearings and determine who shall witness and for how long. True, the Senator actually determines, but often necessarily merely approving the program set before him.

They, too,—denying this doesn't change it—have principles, have objectives, have programs, likes and dislikes, beliefs and prejudices and they affect the process materially. They, too, often must rely on others, gray eminences, invisible and anonymous, who provide the data, who may draft early versions of bills, who call out the troops to gain the support of other senators, who quiet the troops when rebellion looms in the face of incomplete satisfaction. (While I devoted my attention to the Senate the story is similar in the House with one major difference. A representative may have one-fifth of the immediate legislative burden of a senator. He, therefore, more readily can become an expert in substance, with concomitant and proportional decreases in staff power and increases in access to the legislator himself.)

Although my prime example will be outside of graduate education *per se* and even outside of the medical science area of closest interest to this audience, virtually everything discussed applies, for example, to the success in having Title IX, fellowships programs for public service and mineral sciences funded in the fiscal year 1975 appropriation bill and as applies right this minute to the still developing energy R&D and Health Manpower legislation bills of special interest to graduate education.

In mid-1971 the junior colleges, or as they wisely prefer to be called, the community colleges, were at their peak in popularity. Their explosive growth in number and the clientele they serve, their populist appeal, their promise of practical training at low cost, all combined to make them desirable in the minds of Congress. Senator Harrison Williams of New Jersey had introduced a separate bill in 1970 calling for a three-year \$6 billion authorization to build and enlarge the country's system of junior colleges, to train faculty, provide equipment, and do all that was needed to make a promise become fulfilled. The bill, in 1971, had become part of the omnibus education amendments with Senator Pell, the subcommittee chairman's obvious approval.

Although even then we had some notion of the "size of the pie" phenomenon and knew that more funds for junior colleges might mean less funds elsewhere, the bill seemed to be "theirs." Whoever "they" were it was

"their" concern as we patrolled the borders of institutional aid, student aid formulas and other parts of the legislation. We did that until Newton Cattell of the Pennsylvania State University noted that the Williams bill ruled out four-year colleges and their branch campuses from participating in the new programs notwithstanding the fact that some of them performed virtually identical services as did the junior colleges for the communities. It was apparent that before the bill became law an amendment was needed.

Several meetings with Senator Pell's subcommittee staff were held. They grasped the problem at once and were sympathetic. They saw some basis for our argument, but it was the chairman's bill and they couldn't fiddle with it at will. (Moreover the bill was closely related to the section of the law that eventually was to give birth to the 1202 commissions, and in its formative period they were understandably reluctant to tinker with language.)

The house bill did not contain the Williams bill, so that any success had to come from the Senate. The Williams' staff was less sympathetic. This was, after all, a bill to support junior colleges—so conceived and so drafted. Changes might dilute the purpose or the results. The junior colleges, with whom we are so often aligned on broad legislative activities, clearly saw us as seeking a bite of their apple before it had even ripened. But we had justice on our side and that had to make a difference.

Within one week of the start of our campaign the scores of branch campuses of the major public universities had been notified of the problem. Some thought it not impertinent to notify their senators of their interests, particularly if the senators sat on the labor and public welfare committee in the Senate, and most particularly if they served on the education subcommittee. The four-year public institutions, comprising the American Association of State Colleges and Universities, believed that with their major function—training teachers for elementary and secondary schools—in jeopardy thanks to the pill, the IUD, and the greater restraint of libidinous adults, all making for fewer children and the need for fewer teachers, their one hope lay in career education, a territory staked out by the junior colleges despite the historical accomplishments of selected four-year institutions. These schools had to have "community college" defined by function and not by numbers of years of training offered. These schools, too, entered into conversation with senators and went a step further.

The nature of AASCU member institutions often tends to bring their presidents into local party politics. For example, the chairman of the House Education and Labor Committee is Carl Perkins. He is from Kentucky which is home for five state colleges. The president of AASCU in 1971 was Dr. Robert Martin of Eastern Kentucky University. "Dr. Bob," as Mr. Perkins calls him, speaks English as a second language. Kentucky Democratic Politics is his mother tongue. Further, John Rowlett, vice president of Eastern Kentucky, who has been heard referring to himself as "just an old shop teacher," but, in fact, is a national authority on postsecondary vocational education, produced the statistical analysis showing how many four-year institutions already were involved in career education and how many more, given needed financial support, could be expected to offer such

programs. With this data, Kentucky college presidents made the case before the House on the chance that the Senate effort "came a cropper" or to reinforce any favorable Senate changes.

Then came the lucky break. So that the full implications of the Williams bill could be reviewed and the junior college forces given their chance to support the bill publicly a one-day hearing was called. It was to be a junior college show. Others, particularly others who might question the bill, would be interlopers. What strategy to follow? Dared we oppose the chairman's bill? Should we? No. It was a good bill. It simply needed perfecting. We wished to testify in favor of the bill. Some of the Williams' staff were unimpressed. Phone calls were not always answered. Always gentlemenly and helpful, their appointment calendars now seemed to be filled. Not so with Senator Pell's staff. Higher Education may think it has better allies in the Congress than Senator Pell and his staff, but no Senator and no staff has more integrity. Open hearings would, in fact, be open, and we would be permitted to testify.

One wordsmith was given the task of writing the formal testimony. His job was to make the central point without deprecating in any way the fundamental objectives of the bill. Witnesses had to be selected. Should we choose a man from New Jersey, one from Rhode Island, and one from New York to face Senators Williams, Pell and Javits of those states? This had sound reasoning but as Newton Cattell emphasized our own strong suit may lie in being less obvious and more helpful. Instead an urban community president with a record of developing career programs, a director of a major branch campus system in the mid-west, and an urban Black president struggling to bring to life a new institution were our witnesses. The cool, articulate and knowledgeable witnesses, who would need little briefing, would carry the fight.

The night before the testimony consisted of a mock hearing. Every crazy idea that we thought might come up was gone into, analyzed and answered. And as had been done for a week previously phone calls went to the public colleges of West Virginia. That state had no junior college system. Except by building one by enormous and pointless expense the state could effectively be isolated from the benefits of the Williams bill. Did Senator Randolph know this?

The next morning there was a breakfast with Senator Javits' committee aide. One of the ablest and most experienced of capitol hill people, he did not delay before cutting into our group. "Where have you been till now? When will you people learn that there are two houses in Congress and two parties in each house?" His point was made. We had been so preoccupied with our objective we had forgotten how to go about obtaining it. Fortunately, we were dealing with a professional—our stupidity was regrettable. It would not prevent his examining legislation for its own value. The State University of New York was interested in the bill. The ranking minority member of the committee, Senator Javits, would be there. No commitments could be made, but the Senator would be informed.

The hearing opened. The junior college witnesses from New Jersey, Rhode Island and New York insisted on reading their long testimony but Senators Pell and Williams listened indulgently. Enter Senator Randolph. If he had chosen, Senator Randolph could have been committee chairman as he outranked Senator Williams. He had chosen instead to chair the Public Works Committee but his presence was very real on this committee as well. He commended Senator Williams for introducing this landmark piece of legislation and Senator Pell for conducting the hearings. Then he noted that it would be a shame if West Virginia state colleges could not participate in the bill's fine program, or if the state had to build a two-year institution to become eligible for the program.

Enter Senator Javits. His staff aide handed him one sheet of paper. And showing why he has been voted the most intelligent man in the Senate he apparently sped read the sheet of paper and began a brief discussion of career education at community colleges sounding as though he himself had created both concepts, but only after decades of study. And then he asked, why not open these programs to all who can serve the nation whatever their type of institution?

Senators Pell and Williams concurred. The bill was fine but needed perfecting. Their staffs were instructed to meet that afternoon with representatives of the four-year institutions and the branch campuses to work up language to resolve their problem. The witnesses were thanked then the hearing was adjourned. As the group left the hearing room it was met by one of the Senate staff—adversaries, friends, and colleagues all at once. "Ok, so your Black was better than their Black. You are a bunch of lucky (expletive deleted)"

Only a few months before I had sat disconsolate in the congressional hotel with members of the emergency committee for full funding of education programs. Moments earlier the House had beaten an amendment which would have raised appropriations for education by some \$100 million. It had been a long fight and it hurt to lose by only a few votes. A congressman who had helped lead our fight on the floor entered, a broad smile on his face as he stood at the front of the room. "I want to congratulate you people." Behind me somebody whispered, "If he tell us it is not winning but how you play the game I swear I will cry." The congressman continued, "You seem surprised at my congratulations, well let me explain. After all my years in congress today was the first time I heard members of Congress call educators (expletive deleted)."

In recent months, fortunately, there have been several such instances to describe. In July there were going to be no more loans for first-time students in the nursing and health professions programs. The administration wanted to phase out the programs. Language in the continuing resolution prohibited their being funded. The Association of American Medical Colleges appeared to have given up on these programs after some effort. Many of the long-time professionals in federal relations at this time were very busy elsewhere or felt that the effort to change the legislation would be futile. Few federal relations people, too new to the business perhaps to

realize the futility of the situation, visited with Senate staff. After being told and lectured that there would be no more free rides in the medical and health schools, they were allowed to point out the urgency of the situation. An amendment was drafted. That bill is now law and funds have been voted in the supplemental appropriation bill keeping the programs at a level almost comparable to last year's. Nan Wells of the Washington office of the State University of New York and Jack Crowley of the Association of the American Universities, with the help of a few colleagues, had helped mobilize enough excitement from the field to move congress into action before the summer had ended.

It sounds too simple to say it that way. What had happened was the same story. Passionate devotion to getting something done—it was wrong to let this thing fall apart,—and endless hours of tedious attention to detail and extraordinary kindness of congressional staff and their principals who likewise believed in this objective made a difference.

Similar situations abound. If my original metaphor holds, it is not necessary for educators to fear and be hesitant in the legislative process. We need only watch the outcome of the Buckley amendment affair to test this notion.

Perhaps more than any other sector of American life, education enjoys unusual respect and good will. But in the legislative process, as a colleague in the Smithsonian once said of that venerable institution, "We have yet to discover our erogenous zones." We are learning however. The associations are learning to work with one another better. Institutions are beginning to recognize their obligations to the Congress to produce data and information and even a little language for legislation. If we are losing our one time innocence and the serenity that accompanied it we may be learning how to spell precinct and where the real world of legislation is.

One thing is certain, my undergraduate college motto—*Nil sine magno labore*—holds true. It won't be done by relying wholly on the hired hands of Washington-based associations. It won't come about without more time for analysis of legislation on campus by people formally responsible for liaison with Washington and for more direct contact by you with congressmen and their staffs—and that costs money too. We may yet get so good that someday someone will be able to stand before you and read a paper called "The Joy of Education Legislation—A Gourmets Guide."

The National Research Service Award Act of 1974

Lyle V. Jones

My remarks have three distinct objectives: first, to summarize Title I of Public Law 93-348, the "National Research Service Award Act of 1974;" to provide a brief report as a member of the Commission on Human Resources,

National Research Council, concerning a special research obligation that has befallen the Commission as a result of the Act; finally to share some personal views concerning the terms of this Act.

The National Research Service Award Act of 1974 is Title I of the National Research Act. Its purpose is "to increase the capability of the institutes of the National Institutes of Health and the Alcohol, Drug Abuse, and Mental Health Administration to carry out their responsibility of maintaining a superior national program of research into the physical and mental diseases and impairments of man." The Act provides for National Service Awards of up to three years' duration for research and training at NIH and ADAMHA as well as for research and both pre- and postdoctoral training at non-Federal public and nonprofit private institutions. The Act provides stipends and allowances to individual trainees, and also payments to the institution "for the cost of support services (including the cost of faculty salaries, supplies, equipment, general research support, and related items)." Dollar amounts for awards, allowances, and institutional payments shall be determined by the Secretary of HEW. The Act includes an authorization of \$207,947,000 for the fiscal year ending June 30, 1975. (No funds have yet been appropriated, however.)

In return for each year of training support, an individual must for twelve months engage in health research or teaching, or, if so authorized, serve as a member of the National Health Service Corps.

Effective July 1, 1975, National Research Service Awards may be made for research or research training only in those subject areas for which, as determined under section 473, there is a need for personnel." Section 473 constitutes a request that the National Academy of Sciences conduct a continuing study to "establish (a) the nation's overall need for biomedical and behavioral research personnel, (b) the subject areas in which such personnel are needed and the number of such personnel needed in each such area, and (c) the kinds and extent of training which should be provided such personnel." The study also is to assess currently available training programs, identify the kinds of research positions available to individuals completing such programs, and to evaluate the adequacy of programs that are not federally supported, to determine whether they are sufficient to meet established needs for research personnel. House and Senate Committees shall receive from the Secretary of HEW a report of such study not later than March 31 of each year.

This, then, is the essence of the National Research Service Award Act. Key features are requirements to establish the overall need for research personnel and to determine the number of research personnel needed in each subject area, as conditions for training support.

The Secretary of HEW has asked the National Academy of Sciences to undertake the continuing study of the national need for biomedical and behavioral research personnel. Before responding to this request, the Academy, through the Commission on Human Resources of the National Research Council, is engaged in a feasibility study to decide whether the assigned task can be accomplished. A Committee on a Feasibility Study of

National Needs for Biomedical and Behavioral Research Personnel has been appointed, under the chairmanship of Dr. Robert J. Glaser. The Committee is charged with recommending a course of action for the National Academy in response to the mandate of the Act; it plans to complete its feasibility report by the end of January, 1975.

The Committee is establishing eight panels, with about five members each, to help achieve its objectives. Five panels are organized by disciplines: basic medical sciences, applied biology, behavioral sciences, clinical sciences, and health services research and evaluation. Each panel is asked to address the feasibility of developing numerical estimates of need for research personnel in the fields of study it represents, and to determine the kinds of data needed to generate such estimates. Three other panels are organized to consider data and analyses, supporting studies, and impacts of such a continuing study upon institutions, individuals, and the market for biomedical and behavioral research personnel.

To try to anticipate findings of the feasibility study seems not only inappropriate, but probably impossible. Instead, allow me to offer some personal comments about the Act and the challenges that it presents. While its purposes are laudatory, to maintain a superior program of biomedical and behavioral research, difficulties abound when considering implementation of the Act.

First, it assumes that a study can succeed in establishing the nation's need for biomedical and behavioral research personnel. In the judgement of many, the establishment of need will prove to depend upon the national priority assigned to health research, which has been determined in the past by unpredictable political forces in our society. In a recent issue of *Science*, David Challoner comments upon the difficulty of predicting needs for health research personnel, given the uncertainty of the political process.¹ Challoner notes the importance of relative stability of the annual budgets for biomedical research. He proposes that the health research budget be a fixed percentage of annual revenues for health services. Such an approach might then provide a better basis for determining the level of need for training of research personnel.

Another difficult issue is encountered in the dependence of support for research training upon forecasts of personnel needs, subject area by subject area. Even the development of a theoretical model for the forecast of personnel needs is fraught with uncertainty. In practice, gross inaccuracies in manpower forecasts are to be expected. Among several weaknesses of forecasting models, one is especially prominent. When a forecast is published, it affects the choices made by individuals and institutions so that people are trained to alleviate the forecast shortages of personnel, while training declines in fields of forecast surpluses. Inevitably, the forecasts are made invalid by such natural reactions in the market place.

Still other difficulties include the following.

¹Challoner, D.R., "A Policy for Investment in Biomedical Research," *Science*, 186, (4 October 1974.), pp. 27-30.

(1) The need to identify subject areas in advance may overlook important emerging areas of national need.

(2) The requirement of service in return for training stipends is relatively untested and it may prove to be so costly to administer as to outweigh the public benefits.

(3) The Act implies that, if a sufficient number of adequate but non-federally supported research training programs can be identified for a given field, then federal support for training in that field would not be provided. That implication has dire consequences for a training program that may have been initiated without federal support but which cannot be sustained unless federal funds are allocated.

(4) Identifying "the kinds of research positions available" is a large and complex task, the results of which are likely to be controversial.

(5) The time lags within this system seem to have been totally ignored. Findings of a study may influence training opportunities within a year or so. Then several years will pass before trainees are prepared to enter research employment, by which time the kinds of positions available might be strikingly different from those identified several years earlier.

(6) The substantial time required to complete a study of this complexity also seems to have been overlooked.

(7) The wisdom of asking a single agency to determine "the kinds and extent of training which should be provided" for research personnel in a given subject area is questionable. To encourage the adoption of a prescriptive model for training programs might discourage the development of alternative curricular models. A possible consequence is that progress towards improvements in methods of training will be impeded.

(8) The possible advantage to the quality of research when a person trained in one field is employed in another does not seem to have been recognized in the Act.

There is a temptation to criticize Congress for having tied future support so closely to the tenuous establishment of numerical needs for research personnel. Yet, that fault may be as much ours as that of Congress. For years, university spokesmen contributed to the perception that federal support of research training was justified solely by the scarcity of research personnel in critical fields. It is not surprising, then, to be asked to supply detailed evidence for that assertion.

At this date, we are unable to judge whether the National Academy will agree to undertake the continuing study. Should it be determined that the study is not feasible under the terms of the Act, the challenge would be clear; to develop a more defensible basis than that provided by the forecast of manpower requirements for the maintenance, as a national resource, of

biomedical and behavioral research training facilities. In this case, special attention should be given to the relative costs of (a) insuring the maintenance of some excellent research training facilities, regardless of current guesses about future manpower requirements, vs. (b) discontinuing the current support of research training in some fields, and expecting to bear the price of reinitiating training programs in those fields at a future date, when their need is better established. The cost estimates for this comparison should include not only dollar values, but also the losses incurred due to diminished research progress in fields where research training may be curtailed, losses of life and increased human suffering, as well as a drop in the rate of acquisition of new knowledge.

Bioscience Agencies and Lobbying

Robert H. Grant

There is increasing evidence that a number of the scientific and learned societies are interested in becoming more involved in public affairs and public policy.

I would like to indicate how the constituent societies of the Federation of American Societies for Experimental Biology (FASEB) resolved similar problems, beginning in 1967.

Dr. James Shannon, then Director of the NIH, was concerned about the inactivity of the biomedical societies and, indeed, the academic community, relative to public policy as it affected science. In early 1967, at the invitation of the FASEB Executive Committee, he discussed the problem of science and public policy and the need for academic societies to become active in public affairs. Shortly after this meeting, the Board created a Public Affairs Committee composed of one representative from each of the FASEB societies. In early 1968, the Office of Public Affairs was created.

It became apparent in the early stages of formation that in order to relate effectively to public issues, the Committee had to become educated as to legislative matters, Federal administrative problems, and public policy issues. It was decided that the Committee would meet every three months, and at each meeting an individual would be invited to discuss at least one important problem, such as research grants, training grants, peer review, budgeting for research, contracts, education, and many other items of interest to the scientific community. Among our speakers and discussants have been Mr. Paul O'Neill, Deputy Director of the Office of Management and Budget; Dr. H. Guyford Stever, Director of the National Science Foundation and Science Advisor to the President; Mr. Benno Schmidt, Chairman of the President's Cancer Panel; Dr. John Millis, President of the National Fund for Medical Education; Dr. Robert Stone, Director, National Institutes of Health; various NIH Institute directors; several members of the staffs of

Congressional committees, and many others. Through this technique our Public Affairs Committee has learned a great deal.

Our members testify before various legislative committees on the Hill. More importantly, we have created a cadre of over 250 National Correspondents who write, telephone, and otherwise communicate with members of both the House and Senate relative to legislative matters of concern to the total FASEB membership of 13,500.

In addition, the Office of Public Affairs publishes a monthly Newsletter and a Public Affairs insert in Federation Proceedings, both of which go to the entire membership to keep them advised as to public affairs. Several societies, not members of FASEB, subscribe to the Newsletter. Copies are also sent to DHEW, NIH, NSF, and members of Congress.

The Public Affairs Committee and our members have taken positions on such items as the Biomedical Research Act, the National Research Service Awards, the International Science and Technology Transfer Act, the peer review system, the National Cancer Act, the National Heart and Lung Act, animal welfare legislation, the National Institute of Aging, and a host of other issues.

Recently the Executive Committee of FASEB, based upon recommendations of the Public Affairs Committee, has approved a scientist Congressional Fellows Program, a Scholar-in-Residence Program, and a Public Information Program to convey scientific information to the lay public—the taxpayer.

In the past few years many other organizations have created public affairs activities, such as AAMC, the Microbiology Society, AIBS, the Biophysical Society, and Cell Biology.

Over the past five years representatives of several non-member societies have attended the FASEB Public Affairs meetings and have participated in our activities. Because of the growing interest and need for societies to participate in issues related to the public interest, we decided to "test the waters" through the creation of an alliance of the biological societies. Thus far we have had two meetings. Those societies represented were the

Society of General Physiologists	Biomedical Engineering Society
AAMC	Society for Developmental Biology
AIBS	American Society for Microbiology
FASEB	Committee on Impact of Biomedical Research
American Society of Plant Physiologists	American Federation for Clinical Research
AAAS	American Society for Cell Biology
Tissue Culture Association	Biophysical Society
American Chemical Society	American College of Cardiology
Teratology Society	Undersea Medical Society
Endocrine Society	

An organizational meeting was held on November 23 to establish the objectives, the governance, and the financial structure of the Biology Alliance for Public Affairs.

Now, what should The Council of Graduate Schools do?

I would recommend the appointment of a Public Affairs Committee from among your members. Selection of individuals should be based upon broad geographic representation from among those who have an interest and some exposure to Federal and State legislative matters.

Spell out the objectives of the Committee. Support meetings at regular intervals. Invite individuals to your meetings who can inform and discuss issues of interest with the Committee. Take a position, write position papers, submit them to Members of Congress; testify on the Hill, relate and communicate to the media; support one or more Congressional Fellows. Finally, and importantly, have a representative in Washington.

We must face the challenge of continuous changes, particularly in regard to the current economic situation in the United States. If the constraints placed upon science, both monetary and otherwise, continue, then the societies have failed to communicate and educate. It becomes our responsibility to keep Federal and State legislators informed and to offer expert advice to these bodies through testimony, letters, and offers of assistance in matters related to education and science.

I realize you cannot do all of this at once, but you can begin, and I urge you to do so as soon as possible.

Results of the NSF-NIH Survey of Graduate Science Student Support, Fall 1973: A Look at the Biosciences

Penny D. Foster

I have been asked to tell you today about some of the results of the NSF-NIH survey of Graduate Science Student Support conducted in Fall 1973, and particularly about graduate enrollment in the biomedical sciences. As some of you may already know, the current NSF survey is an outgrowth of a data collection system begun in 1965 with the advent of NSF's graduate traineeship program. This program provided NSF with a continuous data series from 1965 to 1971 on graduate science enrollment in Ph.D.—granting institutions, and the sources and types of major support of full-time students, with additional information on postdoctorals. When the program was phased out in 1971, the Division of Science Resources Studies within NSF recognized the importance of maintaining the data collection system and elected to conduct a survey of the same Ph.D.—granting institutions in order to maintain continuity with the past. Coverage was expanded, however, to include all medical schools and clinical medical departments and thus to increase the availability of data regarding the biomedical sciences. The 1972 survey reached over 3,8000 doctorate-level departments, 1,500 of which were in the life and medical sciences. The results of that survey were published in a final report in December 1973.

The National Institutes of Health expressed an interest in cooperating in the collection effort and contributed substantial funds needed to launch a 1973 survey. The staff at NIH devoted a large portion of their time to the management of the medical school data sector, and with their efforts, the number of doctorate departments in our survey population rose to almost 5,700 in 1973, 3,200 of which were in the life and medical sciences, more than twice the number surveyed the previous year. Because of this expanded coverage, NSF and NIH feel confident that the data I am presenting to you today are highly representative of the graduate student and postdoctoral population in these fields and can be relied upon with confidence.

Because of the shifting size of the survey universe trends could not be very meaningful if examined on an absolute basis. For this purpose, a statistical method has been devised which allows us to examine, for trend purposes only, those departments that have reported in both 1972 and 1973 surveys, and these are known as "matched" departments. As the survey expands, this matching process may not become necessary each year, but for this transition period, it meets our needs for meaningful trend statistics, even though they are short-term. Data from the graduate traineeship program have been converted to index number so trends could be calculated from 1967 through 1973.

To place graduate enrollment in the biomedical sciences in perspective, I'll show a few charts that illustrate what is happening in all full-time science and engineering enrollment, as in chart 1. Note that students holding fellowships and traineeships account for 21 percent of the total and research assistants, 22 percent. Federally supported students account for about half of the former and about three-fifths of the latter.

Another interesting facet of graduate science enrollment is the shift in funding patterns from 1967 to 1973, as illustrated next (chart 2). Federal agency support to full-time graduate students accounted for 27 percent of the 164,000 student total in 1973, down considerably from the 42 percent share in 1967. The institutions themselves, and state and local governments, provided financial support to 42 percent of all full-time students in 1973, up from 34 percent in 1967. Note also the increasing share of students who are now self-supporting.

Using the indexing method, we see that in 1973 students receiving Federal support represented only slightly more than one-half the level supported in 1967; during this time, federal academic science obligations went down to 18 percent below the 1967 level in constant dollar terms. This indicates that institutions receiving funds from federal agencies did not maintain the same level of federally supported students as the level of federal funding they received. In total, the level of full-time graduate enrollment declined by about 5 percent from 1967 to 1973, (chart 3) for a variety of reasons. In addition to shifting patterns of financial assistance, the rising costs of higher education played a major role, as did shrinking job markets for Ph.D. holders in some fields and changing student attitudes toward science careers.

**GRADUATE ENROLLMENT IN SCIENCE AND
ENGINEERING IN DOCTORATE -
GRANTING INSTITUTIONS, 1973**

	NUMBER	PERCENT
● FULL-TIME STUDENTS:		
● TOTAL	164,300	100
● FEDERALLY SUPPORTED	43,000	26
● FELLOWSHIPS-TRAINEESHIPS:		
● TOTAL	34,100	21
● FEDERALLY SUPPORTED	18,100	11
● RESEARCH ASSISTANTS:		
● TOTAL	36,100	22
● FEDERALLY SUPPORTED	20,700	13

SOURCE: NATIONAL SCIENCE FOUNDATION

SRS 74-3106
REV. 9-19-74

CHART 1

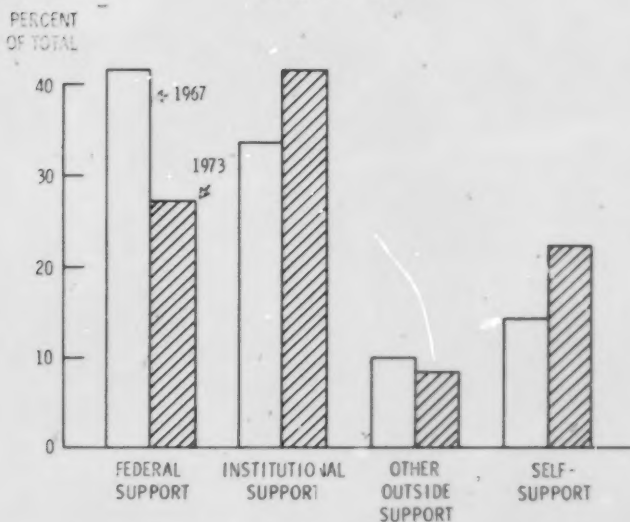
Federal R&D obligations to universities and colleges, which accounted for more than three-fourths of all federal academic science support in 1973, rose only 1 percent between 1972 and 1973 in current dollar terms, as shown in chart 4. Translated into constant dollars, there was an actual decrease, which over the entire period amounted to an average of only 2 percent per year. Meanwhile, research assistants supported by federal funds declined by 13 percent and federally supported fellows-trainees fell to 20 percent of the 1967 level (charts 5 and 6). Institutions evidently utilized postdoctoral appointees to an increasing extent to perform the research supported primarily by federal funds, at the expense of the traditional resource, research assistants, as illustrated in chart 6.

I would now like to turn to a few of the highlights of the survey as they relate to the biomedical sciences. Of the 218,000 graduate students enrolled in Ph.D. granting institutions in 1973, over 33,200 (or 15 percent) were enrolled in the biological sciences, and 6,600 (or 3 percent) in the health

sciences, including 3,700 students in clinical medicine. Agricultural departments enrolled another 7,700 students, or another 3.5 percent. This represented a grand total of 47,600 students in the life sciences, or 22 percent of all graduate science students, 86 percent of whom were enrolled on a full-time basis.

Today I would like to put the life sciences in perspective with regard to enrollment in all other fields of science and engineering. By looking at only those departments for which we have data for three consecutive years, the so-called "matched" departments, we can determine a short-term trend in both full and part-time enrollment in the major areas of science. Overall, full-time enrollment in the life sciences remained at the same level in 1973 as in 1971, at a time when all other fields of science and engineering showed declines, at rates ranging from less than 1 percent in psychology to nearly 8 percent each in the physical and mathematical sciences and engineering. Part-time enrollment was up, however, in all fields except engineering,

**DISTRIBUTION OF FULL-TIME GRADUATE SCIENCE
STUDENTS, BY SOURCE OF MAJOR SUPPORT,
1967 AND 1973**



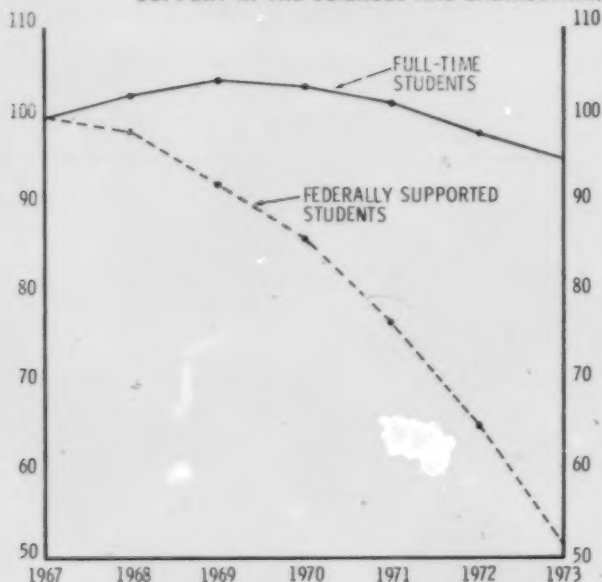
SOURCE: NATIONAL SCIENCE FOUNDATION

SES 74-3108
REV. 9-19-74

CHART 2

INDEX -
1967 = 100

TRENDS IN FULL-TIME GRADUATE ENROLLMENT AND FEDERAL SUPPORT IN THE SCIENCES AND ENGINEERING, 1967-73



SOURCE: NATIONAL SCIENCE FOUNDATION

SRS 74-3107
REV. 9-19-74

CHART 3

which showed a 5 percent decline. The biological sciences showed the largest increase in part-time enrollment, up to 25 percent over the three-year period studied. This trend indicates an increasing dependence upon full-time employment, in the absence of availability of outside support in order to attend graduate school.

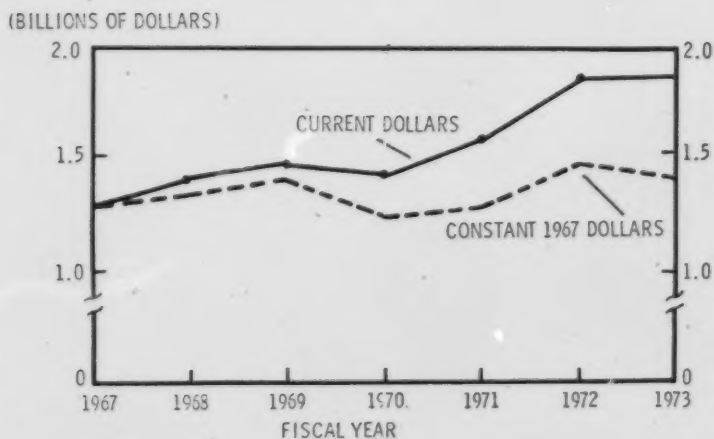
Although total full-time enrollment in the life sciences remained at a standstill, first-year full-time enrollment rose appreciably, a 5 percent increase overall from 1971 to 1973, with agricultural enrollment showing the largest relative rise, almost 9 percent in three years. The increase in first-year full-time enrollment in the life sciences was accompanied by a decrease of 2 percent in students beyond their first year. Medical school departments, when examined separately showed even higher rates of increase than the institutions as a whole—over 6 percent in 3 years in total full-time enrollment in the life sciences and almost 15 percent in the first-year component. However, the rate of increase dropped substantially in the last year, and the

biological sciences actually registered a decrease of 2.5 percent in first-year enrollment.

Turning to the means by which these life science students were supported, we find that those dependent on federal support have decreased by 15 percent since 1972. Within this group, those receiving fellowships and traineeships declined at 20 percent; those holding teaching assistantships at 26 percent. Federally-supported research assistants declined by less than one-half of one percent in all life science fields, although the biological sciences held their own and the health sciences went up 9 percent.

Of the 16,000 postdoctorals holding science and engineering appointments in Ph.D. granting institutions in 1973, almost two-thirds, or over 10,000, were assigned to the life sciences. Appointees in matched departments increased 6 percent from 1971 to 1972 but declined at nearly the same rate the following year. The dropoff in postdoctoral appointments could be indicative of an improved job market in the latter year in industrial and nonprofit concerns, university faculty appointments, or federal agen-

TRENDS IN FEDERAL R&D OBLIGATIONS TO UNIVERSITIES AND COLLEGES, FY 1967-73

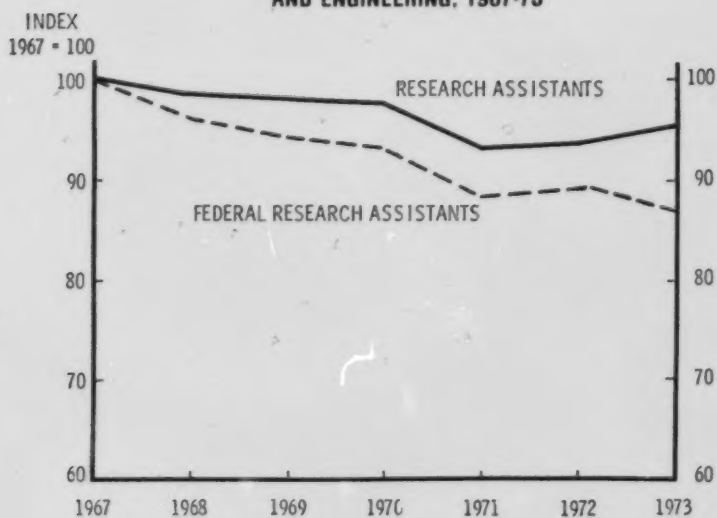


SOURCE: NATIONAL SCIENCE FOUNDATION

SRS 74-3111
6-25-74

CHART 4

TRENDS IN RESEARCH ASSISTANTSHIP ENROLLMENT AND FEDERAL SUPPORT IN THE SCIENCES AND AND ENGINEERING, 1967-73

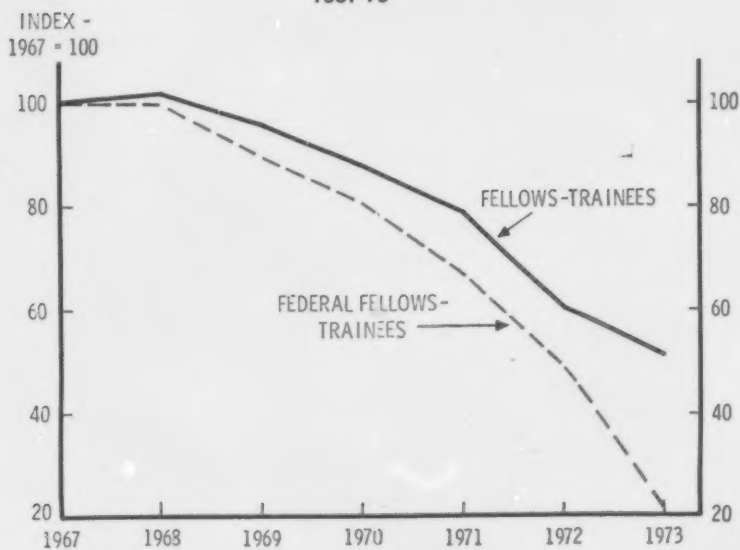


SOURCE: NATIONAL SCIENCE FOUNDATION

SRS 74-3110
REV. 9-19-74

CHART 5

**TRENDS IN FELLOWSHIP-TRAINEESHIP ENROLLMENT AND
FEDERAL SUPPORT IN THE SCIENCES AND ENGINEERING,
1967-73**



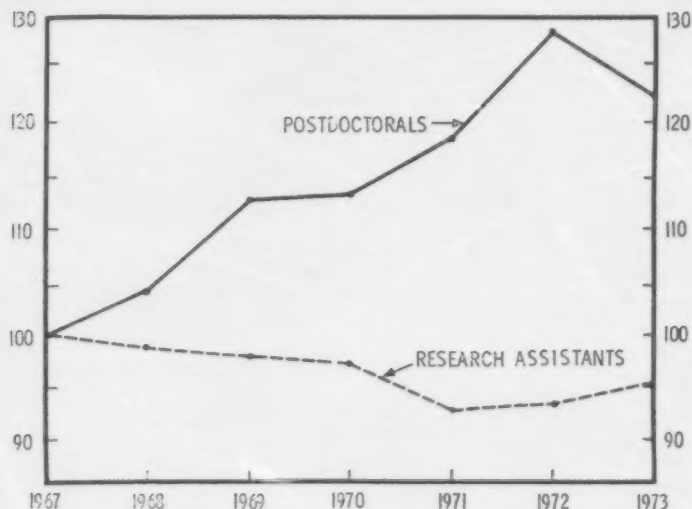
SOURCE: NATIONAL SCIENCE FOUNDATION

SRS 74-3109
REV. 9-19-74

CHART 6

POSTDOCTORALS AND RESEARCH ASSISTANTS IN SCIENCE PH.D.-GRANTING INSTITUTIONS, 1967-73

(INDEX 1967 = 100)



SOURCE: NATIONAL SCIENCE FOUNDATION

SRS 75-114
9-19-74

CHART 7

cies. The overall unemployment rate for scientists and engineers in 1973 was only 1.2 percent, according to a recent study of the National Academy of Sciences. These are just a few of the major findings of the 1973 survey. Further details may be found in the following NSF publications, *Graduate Science Education: Student Support and Post Doctorals, Fall 1973* (NSF-74-318A) and "The Federal Role in the Support of Graduate Science and Engineering Education" published in the *Reviews of Data on Science Resources*, No. 22 (November, 1974).

Both NSF and NIH are attempting to meet the statistical needs of the scientific community and hope to continue to provide the data on scientific manpower resources that you need for policy and budget making purposes. We intend to remain responsive to your data requirements, but we recognize this imposes a response burden on all of the graduate and medical school deans and their department chairmen who supply this information. We are grateful for their continued cooperation and will continue to make every effort to provide the results of these surveys in a timely and meaningful way.

First Plenary Session

Wednesday, December 4, 1974, 2:00 p.m.

CHAIRMAN'S ADDRESS

LEGAL ENTANGLEMENTS OF THE GRADUATE DEAN

Presiding: Jacob E. Cobb, *Indiana State University*

Charles T. Lester, *Emory University*

James J. Ritterskamp, Jr., *Vassar College*

Willard H. Pedrick, *Arizona State University*

Jacob E. Cobb

It is my privilege to call to order the first session of the Fourteenth Annual Meeting of the Council of Graduate Schools in the United States.

Dean Charles Lester, of Emory University, as you know, is currently Chairman of the Executive Committee of the Council. I am not really sure that anybody can do true justice to an introduction of Charles Lester. He is a chemist; he is a raconteur par excellence; he is Vice-President for Research and Dean of the Graduate School at Emory University; he may be at any given time a vice-president for academic affairs, the dean of the college of arts and sciences, the dean of the graduate school, and the vice-president for research all at the same time or he may be at any given time any one of these. You know him; you have heard him speak; you, I am sure, as well as I, are looking forward to hearing him today. It is with a very great deal of personal and professional pride that I introduce to you Dean Charles Lester.

Chairman's Address

Charles T. Lester

As can be seen from the program, it is my responsibility to favor you with a few well chosen remarks at this time. Please be assured that I am profoundly pleased at this opportunity. I am delighted to open this meeting and bring you greetings from the Executive Committee.

Let me thank each of you for your contributions to the Council during the year just ending. Without exception you have responded quickly and effectively to every task you have been asked to perform. I wish particularly to thank the Executive Committee and the various standing committees and task forces for their accomplishments during the year. In a very real sense, the Council operates through these smaller units to promote and improve

the activities of the Council. I now begin to make a short series of observations. It may be presumed by some of you that these remarks would be challenging and provocative. However, I have decided on a somewhat different content. You can evaluate it at your pleasure.

All of higher education is moving or has already moved into a strange new posture. Enrollments at every level—albeit not in every discipline—are up and have been rising for the past many years. Students seem more appreciative of educational opportunities than in the recent past. Campuses have become calmer than in recent times and yet everywhere one turns there is the corrosive element of fear and uncertainty.

Faculty, as individual research grants are reduced in size and number, are feeling the pain of loss of independence and prestige. Administrators are feeling the pressures of deficits—some of destructive magnitude. Salaries do not keep pace with rising living costs and boards of control battle legislators and private corporations and foundations for more dollars. Nontenured faculty are anxious to the point of paranoia.

Of all sectors of higher education, none is in a more puzzling position than the graduate schools. Despite the almost complete disappearance of federal support for graduate students, enrollments continue to rise. I think all of us expected graduate enrollment to drop steadily when Uncle Sam closed or curtailed his various fellowship programs. The fact of the matter is we seem to be enrolling a goodly number of students. We seem to be graduating as many masters or doctoral degree holders as our society currently seeks to employ. In some disciplines, even more. Yet it is fair to say that despite these positive signs, we are all anxiety ridden. Without pretending to know the answer, I raise the question—are we too anxiety ridden? Are we confusing a troublesome and painful injury with a mortal wound?

My basic faith in graduate education remains unshaken by all of the blows we have received. Our society's problems are no less severe than they were. Our capacity to train experts no less than it has been. Over the long haul, I am sure we all know that an international, technological, urbanized society such as ours needs graduate education of the highest quality and in considerable quantity.

Our basic problem is to keep our house in order—not burn our houses down. There is still a hunger for knowledge in our young people. There are still faculty who are devoted to scholarship and teaching. There are still legislators who understand the importance of research. There are still corporations, individuals and foundations who are prepared to support quality. I suspect that you think I am being silly, fatuous, or uninformed.

We must drastically change our own outlook. Why do we want to begin, maintain, or enlarge a graduate program? Is it strictly for our own benefit? It is clear to me that during the years 1958-1968, years in which money for graduate education was relatively easy to secure, we listened to the voice of institutional prestige rather than to a disciplined call to service. Too many of us were more concerned to improve our institutional reputation than to improve the quality of our already existing program.

In these days of difficulty, let us not despair. If we are worthy of our heritage, we will not lose our poise. We know that graduate education is necessary. We know that it is in demand and we know that we will survive.

However, our survival depends not on our own institutional ambitions so much as on our sense of social responsibility. We need not so much alter the character of our liberal arts graduate curriculum, as to find a greater variety of graduate programs to enhance our traditional programs. It seems clear to me that in the physical sciences, the biological sciences and the behavioral sciences, we have tremendous opportunities to provide flexible graduate programs that will provide quality experiences of a non-traditional nature to meet specific needs of society. Admittedly, it is difficult in some disciplines, particularly in the humanities, to accomplish this kind of non-traditional experience. I think it should be done when and where it can be done. When it cannot without damaging quality don't do it. That is my strong conviction.

In the final analysis, we must justify ourselves not for our own glorification but whether we are worth what we lost. I have no doubts that we are worth what we cost, but we cannot justify on the basis of our goals, our prestige, our ambitions and our ego. We are necessary. We do have something to contribute.

Gentlemen, we have the expertise. We have the talent. In short, we have the crowbar. Let us use it wisely and well so that we are demonstrably worthy of support.

Jacob E. Cobb

The first session has as its theme the Legal Entanglements of the Graduate Dean which I suspect is a topic of considerable interest to virtually every person in this room. Our speaker is one who has previously appeared before the Council of Graduate Schools at its annual meeting, who has appeared before the Midwest Council of Graduate Schools, and in both instances did a magnificent job of presenting from a legal point of view some of the types of legal entanglement which graduate deans become involved in and, perhaps, even of more interest, some ways of either avoiding or getting untangled.

Mr. James J. Ritterskamp, Jr., is Vice-President for Administration at Vassar College. His B.S. and J.D. degrees are from Washington University in St. Louis. He has held various business positions at Washington University including Vice-Chancellor for Business Affairs, and served as lecturer in the School of Law and in the School of Business. He has been Vice-President and Treasurer at the Illinois Institute of Technology, Vice-President for Administration at the University of Chicago, a Vice-President of NACUBO, and now, as I indicated earlier, Vice-President for Administration at Vassar College.

It is my pleasure to present to you, Mr. James J. Ritterskamp, Jr.

Legal Entanglements of the Graduate Dean

James J. Ritterskamp, Jr.

Thank you very much, Dean Cobb. I am embarrassed when people go through my pedigree because the record shows I am unable to hold a job for any length of time. It is a pleasure to be here, and I am deeply flattered to be invited to return to this podium of the Council of Graduate Schools and to talk of legal entanglements of the graduate dean. I appreciate your friendship and hospitality and hope that I will not wear thin this welcome. It was first extended to me some time ago by Ray Mariella of Loyola University on the recommendation of Father Creighton. They invited me to New Orleans in 1972. Much water has gone over the dam since that eventful December in New Orleans when I spoke with you. Much water, both legislatively speaking, legally speaking, and figuratively speaking. There has been much new law out of Washington and much legislation. There have been many changes too. I understand that the most recent change is the change in the name of the tidal basin in Washington to the Old Mill Stream, which is singularly appropriate.

I want you to know that there has been no change in the punchline remarks, of my discussion with you in New Orleans in 1972; and I brought the manuscript along just to read the punchline. "Listening to me talk of areas of legal involvement is not going to do you much good unless it leads you to the legal counsel representing your institution. This is the individual you must get to know and let him get to know you and the manner in which you conduct your work. Tell him what a dean's office is all about. Give him the opportunity to tell you what is the prevailing law in your state and what are the legal involvements you are concerned with dealing with your faculty, your students, your alumni, and your public. If I can accomplish an introduction of you to your legal counsel and help form a close working relationship between the two of you, my time in coming to this city will have not been misspent." And I continue to emphasize this recommendation. I hope, those of you who were at New Orleans, have taken heed of my advice and gotten to know your counsel. I hope you have not had to use his services, but I remind you that you can never tell when his counsel may be essential. The greatest service he will give you is to keep you out of the courts and out of legal entanglements. I remind you of the couple who had a small child and right from birth they kept waiting anxiously for that child to speak. Six months went by, nine months went by, twelve months went by, fifteen months went by and not a word from the child at all. Suddenly one morning they were sitting at breakfast and all of the sudden the child speaks out "The toast is burned." And, of course, the mother and father were just thrilled to hear him talk. And they said why you've never talked before, you haven't said one word, what's happened that you suddenly talk. And the kid said, "Well, everything's been all right up to now." Now, you may not need your

legal counsel. Let's hope that everything remains comfortable but at least keep him as part of your team.

When Shirley Spragg and I were enjoying the hospitality of Dean Sisler and the University of Florida early in July, he suggested I should use my time today to talk about new developments in the law and particularly to emphasize Title IX and the regulations that have been issued but not yet put into full execution. While we were in Florida, Senator Buckley was busy in Washington tampering with our student records to the extent that he created a third topic for me to discuss with you today. I will cover all three of these topics and do it as briefly as possible, after mentioning several new developments.

I remind you that we are about to have a new session of Congress, and I believe, a new copyright law. The *Williams* and *Wilkins* case has indicated that there is a need for a new law and the Senate Judiciary Committee approve one and voted it out of committee but, too late to get any action in this Congress. It appears very likely that the new Congress will act. I have a clipping here from *The New York Times* of April 12, 1974, which is indicative of why I believe there is going to be action. It says "The Association of American Publishers, which speaks for most American book publishing companies, has denounced a plan by four Eastern libraries to combine some of their operations in ways that would entail cutting back purchase of many publications and systematically exchanging photocopies of previously published writings." The association's president, in a letter to the Senate Subcommittee on Copyrights, said that this decision wholly ignores the rights of copyright owners and indeed seems to have been taken with the deliberate intention of avoiding the payment of royalties even for avowedly systematic and unlimited photocopy. The project entails cooperation by the non-circulating divisions of the New York Public Library with the Columbia, Harvard, and Yale libraries. Once they start exchanging publications and facsimiles of writings in their collections, the libraries expect to be able to save money by buying only one copy among them and not four copies of expensive sets of volumes." The libraries' plan is interpreted as meaning they "refuse to recognize an obligation to make payments to the rightful copyright owners of the material they plan to duplicate." The Senate Judiciary Committee proposed bill did indeed limit libraries to one copy only and there will be more action.

Now, there are a few cases in the area of faculty conduct that you may have seen or heard about in the ivy halls. There is a 1973 Connecticut case where the registrar changed the grades turned in by a professor. It seems that during the Kent State riots, the University of Connecticut abandoned final exams and instead of flunking students, the professors were supposed to turn in reasonable grades. One professor refused to do that, so the registrar changed his grades. The professor sued, claiming his rights were violated. The Connecticut court sustained the action of the registrar and the college and told the professor that he better follow instructions.

Then there was an Arkansas case not too long ago where an assistant dean of a law school was ruled a public official. The court applied the law as

enunciated in the New York Times Sullivan case where free and open comment is permitted when one is a public official. This assistant dean as I understand it from reading the synopsis of the case, had been written up in the newspaper by several of the faculty of the school, with disparaging remarks and comments. The assistant dean sued for libel, but he was unable to sustain the case because it was fair comment said the court. A case in California where the chairman of a department of English was dismissed and claimed he had not had due process, was decided in favor of the college because there was no proof it was done in a disparaging way.

There are a few other interesting cases. I just asked Dean Lester before we began this session how the \$1,039,750 damage suit that has been brought against Emory University was progressing. I understand, they are riding well so far and have gone through the first few legal steps successfully. Dean Lester tells me he doesn't mind the million dollars so much. It's the damn \$750 at the end of that damage suit that's got him worried. Then there is a Colorado case where a physical education instructor and the university have had a \$150,000 damage suit sustained for an injury a student received in a judo lesson. However, in Louisiana physical education instructor was not held libel when a student let go of a baseball bat and hit another student in the head. But, I suppose this is all "part of the game."—baseball or education.

Before we get into Title IX, if any of you want this advertisement I will be glad to send you a copy. It states, "Research Papers. Send for you up to date 144-page mail order catalogue of 45,000 quality research papers. Enclose \$1.00 to cover postage. All catalogues are air mailed. One to two days delivery time." Your students may need this type of assistance!

Now to Title IX and equal employment opportunity, the topic is somewhat confused and in my most inept way I'll try to simplify it just a bit. There are three major areas of equal employment requirements that we at educational institutions must concern ourselves with. The first is discrimination in employment. The Civil Rights Acts of 1964, Title VII, prevents discrimination in employment on the basis of race, color, religion, natural origin, and sex. The 1964 act exempted educational institutions, and we were not involved. However, in 1972, Public Law 92-261 was passed which removed the exemption and provided new enforcement power for the Equal Employment Opportunity Commission and also brought under coverage employees of public and state office. So the first area is discrimination in employment.

The second area is equal pay, and this dates way back to 1938 when the Fair Labor Standards Act was passed. The Wage and Hour division of the Department of Labor was created and we became concerned about payments for overtime work and the like of that. The Equal Pay Act of 1963, an amendment to the Fair Labor Standards Act of 1938, requires any employer to pay equal wages for equal work regardless of sex. However, the 1963 Act exempted executive, administrative, and professional employees at education institutions. We have been covered by the Equal Pay Act since 1963 insofar as our clerks and stenographers, our maintenance people, food

service employees and many others. In 1972, the law was amended again and removed the exemption of executive, administrative, and professional personnel, so since 1972 the entire campus has been subject to equal pay.

Number one—discrimination in employment, number two—equal pay, and now number three applies to federal contractors. Most of us happen to be federal contractors and are covered by Executive Order 11246. Simply stated, equal employment requirements must be met by all federal contractors and the Office of Federal Contract Compliance was created to insure that. It is designed to avoid discrimination in employment and to establish affirmative action programs. Executive Order 11246 went into effect in 1965. In 1967, Executive Order 11375 amended 11246 to the extent that it added sex as a prohibited discrimination and an affirmative action topic. Since 1967, then those of us with our hands in the federal till are covered by these executive orders which cover four areas: prohibition of discrimination in employment; equal pay; affirmative action for employment of minorities; and to avoid underutilization of minorities. These are in effect and apply to colleges and universities today.

Now, one more complication. Certain amendments were passed in 1972 as amendments to the Education Act of 1965 among which was Title IX and captioned "Prohibition of Sex Discrimination in Educational Institutions." The lead clause in the title states: "no person in the United States shall on the basis of sex be excluded from participation in, either denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." This law was passed, as I stated, in 1972, and requires the Department of Health, Education, and Welfare to issue regulations to supplement it. These regulations came out on June 20th, 1974. Comments from interested parties were due back by October 15, 1974, and we are now awaiting the results of final regulations. I think most of you are familiar with the clauses in the Title IX regulations and I am not going to detail them now. Perhaps in the question and answer period we may discuss some of these clauses. One item that we are all interested in is the clause in Title IX that has to do with retirement benefits. Title IX regulations have embraced the dual type of retirement benefits as not violating sex discrimination. This permits an employer to either makes equal deposits to retirement of both men and women employees or as are alternate, pay equal retirement benefits to both sexes. However, the Secretary of Education has invited comments from colleges and universities on the application of unisex tables in which the same deposit will be made and the same benefits will be paid to both male and female retirees. TIAA is having discussions across the country now on this topic and they are in court about it too. An example of what this means may be in order. The average male who retires at 65 has less life expectancy than the average female; therefore, for each \$1,000 deposit with TIAA, \$114 a year is paid to a male retiree, whereas a female gets only \$102 because of the fact that she is expected to live longer and will require a longer period of paid benefits. If the unisex table goes in, it will be evened out at about \$108 which means that males will be losing \$6.00 per \$1,000 and females will gain \$6.00 per \$1,000.

That is a most hasty touch of Title IX and now we will have a quick look at what is known as the Family Educational Rights and Privacy Act of 1974. *The Chronicle of Higher Education* points out that this law was first rejected by the House of Representatives when considering the omnibus school aid bill. But then Senator Buckley, from my State of New York, added it as an amendment in the Senate and got the Senate to approve it. The House of Representatives, on compromise, reversed itself. The bill was signed by President Ford on August 21st. It went into effect ninety days later. The lead clause in the law says (and I'm quoting from it but eliminating some material,) that no funds will be made available to any institution of higher education, which prevents its students from inspecting and receiving, and now a direct quote "any and all official records, files, and data directly related to their children." This includes, but is not limited to, identifying data, academic work completed, level of achievement, attendance records, scores on standardized intelligence aptitude and psychological tests, health data, family background information, teacher or counselor ratings or observation. This is a law we must live with, hear interpretations, and have regulations issued by HEW. I recommend that you get in touch with your legal counsel because he will have to advise you on how to live with it. The law in your state may conflict with this law too, which makes counsel's assistance all the more essential.

Here are some of the provisions of this bill. "Each recipient of funds shall establish appropriate procedures for the granting of requests by parents for access within a reasonable period of time but in no case more than forty-five days after the request has been made." As I gather, if a student makes a request to see his file, you have forty-five days to comply. Another goody: "parents shall have an opportunity for a hearing to challenge the content of their child's school records, to insure that their records are not inaccurate," (notice the double negative—not inaccurate) "misleading, or otherwise in violation of the privacy or other rights of students, and to provide an opportunity for the correction or the deletion of any such inaccurate, misleading, or otherwise inappropriate data contained therein." Some believe this invites a rehearing on every grade that's been recorded in the student's record. "No funds will be assigned to an institution which has a policy of permitting the release of personally identifiable records or files without the written consent of their parents except to other school officials with legitimate interest, or officials of other schools in which students intend to enroll, and then only upon condition that the student's parents are notified of the transfer, receive a copy of the record and have an opportunity for a hearing to challenge the content of the records." In other words, parents or students must be given advance notice everytime a transcript is issued. The law also states no institution may release records unless there is a written consent of the student's parents specifying the records to be released, the reasons for such a release, and to whom and with a copy of the records to be released to the student's parents and to the student if desired by the parents, or, if such information in the student file is forwarded in compliance with a judicial order or subpoena, you may release

them upon condition that the parents and the students are notified of all such orders in advance of the institution's compliance therewith. Another requirement—all persons desiring access to records shall sign a written form to be kept permanently with the file indicating the legitimate educational or other interest this person has in seeking this information. After a student reaches the age of eighteen or is attending an institution of post-secondary education, the rights accorded the parents shall thereafter only be accorded and required of the student. Finally, this hooker—no funds shall be made available unless the recipient informs their students of the rights accorded them by this section—an invitation to dance perhaps or something of that sort.

Well, where it is going, we do not know. How many legitimate recommendations you are going to receive on graduate students from teachers and professors is doubtful if they are not confidential. The ability of a person to write a confidential recommendation seems to be sinking in the Western sun slower and slower and slower. I think we are not going to get rid of this bill. There has been some talk about Buckley deferring, or agreeing to amend the bill. President Ford believes that the bill is good, and HEW just yesterday or the day before, announced they have appointed officials and set up an office to enforce it. It adds to another yoke on our shoulders.

Well, the time allotted me has expired. In conclusion, I note that I have been on college campuses for 44 years and during that time students and students rights have come a long, long way. To some, it may be a losing battle and a sad state of affairs, but I leave you with the question "or is it so bad after all?"

Jacob E. Cobb

Our discussant on legal problems is Dr. Willard H. Pedrick, Dean of the College of Law at Arizona State University. Dean Pedrick has a Bachelor's degree from Parsons College and a J.D. from Northwestern University. He has taught law at Northwestern University and founded the College of Law at Arizona State. He has not only been interested but has had wide experience in problems dealing with the law and education. It is a very great pleasure for me to present to you Dean Willard H. Pedrick.

Discussion Session on Legal Problems

Willard H. Pedrick

Dean Cobb, vice presidents, super deans, ordinary deans, working deans, and honest working professors, I am very pleased to be here. When you suggested, Dean Cobb, that I am qualified to speak on the subject of the law and education, you probably didn't know how right you were. I have

been dean of this law school—this is my ninth year actually—but I've been sued twice, investigated once, and subpoenaed just last week, which I think is a record which I am quite willing to match with any other dean in this room or out of it.

Now, let me say that I bring to the subject, to which I will not address myself in very un-lawyer-like brevity, a set of prejudices which I will more or less fully disclose. I would just like to give a little general perspective. I probably won't get down to very much detail at all. But I think people are inclined to look back to the good old days in education when you didn't have to worry about the law. In those good old days, faculty could be dismissed without a hearing, students could be admitted or rejected on racially discriminatory grounds or any other arbitrary ground that appealed to the admissions officer. Student papers were docile because if they weren't the editor left in a great hurry. Students indeed had to conform to codes with respect to dress, deportment, etc. I suggest to you that that era, which is not so ancient that we cannot remember it in some nostalgic way, really was an era of bossism in higher education, lawlessness, if you will, in higher education.

It's a jolly good thing, in my view, that the old day is gone. Now the task of accommodating to a higher level of civilization, to being accountable, to having people review and pass judgment upon administrative decisions is a painful adjustment process. That's the pain we are now feeling. But it is tolerable and it is a price that has to be paid if you want to build a better world in higher education. I think we are on the way. A new day is dawning. We know now that we can't expel students because they wear arm bands. But wouldn't you be interested to know that just last June in New Mexico young law graduates who passed the bar examination were concerned about the fate of some of their Mexican-American and Indian friends who had not passed the bar examination. They came to the swearing in ceremony wearing black arm bands only to have the Supreme Court of New Mexico decline to swear in any candidate for admission to the bar, who was wearing a black arm band. Apparently, they completely overlooked the Tinker case out of Des Moines, Iowa, my home state. In that case the Supreme Court of the United States said that high school students can wear non-disruptive black arm bands without being subject to sanction. So the task of bringing the Constitution to the people, even to some of the people in the courts, is not as easy as it might be.

Speakers on campus were not as freed as we once were to see to it that our students received only the real, and true revealed word. We now have to face up to the First Amendment (as if that should be a strain to education) and tolerate diversity.

We can't expel students in the same old fashion—or even the faculty members, at least those with tenure. We may even have to accommodate ourselves to such distasteful things (and I must say they are distasteful) as unionization. How far will it go? What about allocation of football tickets, something really critical and important in our society. I would like to say a

word of good cheer. I don't think it will go as far as the gloom peddlers or the doomsday soothsayers would prophesy.

I don't think the Supreme Court of the United States wants to be a super-school board, but we are going to live increasingly in an era of law and regulation. My advice—learn to like it because you're going to have it. Philosophically, my view is you live in a world of your own choosing. If you want to see disaster around the corner, it's there. But, if you want to see a world that is marvelously capable of adjusting and accommodating to the new and sometimes burdensome regulations—that's our society. You can live in it and enjoy it if you just recognize that the fun of living comes from coping with new problems. That is what education is all about, anyway.

I listened with great interest to the previous paper which was delivered, and I must say the I can't find very much to disagree with in terms of Vice-President Ritterskamp's comments. I thought that his emphasis on the Arkansas case involving the assistant law dean and the open invitation really to say anything you want about a law dean was making more of that particular case than I thought delicacy would have suggested under the circumstances. But I think it is only fair to say, indeed enlarging on what he said, that we are all public figures, whether from private institutions or public. We are public figures, I believe, within the meaning of the Supreme Court's decisions in libel cases and that means that anybody can say anything about you that they want as long as they do not know for sure that it is false. That is not such a bad idea because you enjoy the same freedom! You can even talk that way about your friends and colleagues without being accountable in court.

Title IX, it's a worthy topic. My reaction must be like many of yours. There isn't anything the I am more sympathetic with than the idea that we must bring into higher education women, and blacks, and Mexican-Americans, and American Indians. I'm for it but I have to admit that when they get around to me and say that you have to fill out all these reports and you can't interview until you have, set the closing dates on the applications and you have to advertise for law teacher—why that's incredible! As a matter of fact they're advertising for my job!—That's not because anything untoward has happened to me. I'm a highly intelligent law dean, and I saw the wisdom of going back into being the supreme figure in the school that is being a full professor once again. And so my job is open, and they're advertising, advertising! You know, we always thought they sought the man, an amiable fiction. What one did was get friends to write in and that sort of thing. But the whole game has changed and we're accommodating. But despite the fact that I resent, really resent, the burden of the machinery, I tell you I think it is working. We are getting women law teachers in legal education. We are getting a few minorities—Black, Mexican-American, even one or two American Indian law teachers. The sad thing about it is you do it and then you have to do it all over again because we find somebody and often they get a little experience they are red hot on the market. It's a never-ending business, but that's the way it is going to be! Now most of us never consciously discriminated against anybody in our hiring practices. But I have to tell

you that it wasn't until Affirmative Action came along that things really began to happen. So you just have to swallow your discomfort.

This business of the changing scene presents problems that I hadn't contemplated. We have a great law building. Try to visit it if you can. It's an architectural gem, built only about seven or eight years ago when we had 10 percent of our entering class made up of women law students. Last fall, 33 1/3 percent of our entering class were women. We're not discriminating against them on entry but the facilities they encounter once they get into the school is something else again. I thought I would read a little from a notice which I just posted two days ago on the subject of restroom facilities reassignment. "To alleviate physical suffering, preserve public health, and provide for the common defense, now, therefore, I Dean Pedrick the first exercising all my authority under the constitution as commander of something, the statutes of Arizona, and the rules of the common law, do hereby proclaim that whereas the law building was planned without that prudence and foresight that used to characterize the reasonably prudent man, (who is now, of course, the reasonably prudent person) with the result that facilities for the relief of physical suffering (referred to herein as F.F.R.P.S.) are grossly inadequate for the Ms's now comprising a substantial part of the student enrollment and whereas all men are created equal but men are not precisely equal to women in all respects and whereas hell hath no fury like a woman scorned (acutally they've been quite decent), now, therefore, do I hereby proclaim that on and after Friday, December 6, 1974 the signs on the basement restrooms will be exchanged so the larger room will be for women and the smaller room will be for men. The traffic pattern must readjust accordingly. Further improvement in the interior decor of the two rooms will be undertaken subject to advice from that most learned profession, the plumbers. Postnote: I am advised that male students register their agreement that the F.F.R.P.S. situation calls for relief. They have accordingly indicated a willingness to sacrifice one of the best known doctrines of equity. (I'll say parenthetically that's the clean hands doctrine.) In appreciation, it is suggested that the women students recognize that in the Christmas season this should in truth, be one where there is good will towards men."

I just want to say a word or two about the Buckley Amendment which is so new we don't know what it means. The new law talks only about "students". The other day at a meeting with A.S.U.'s President's Advisory Council I said I didn't think applicants as such should have any rights under the statue at all. My colleagues, rather hooted at me. But I am still of that view. The statute is cast in terms of "students" not people who seek to be but never become students. Perhaps we'll find out whether I'm right or whether I'm wrong.

I've got to be the most experienced person in the country though on one particular point at this time. It was only about a week ago that I appeared in response to a subpoena that directed me to hand over all the records and papers relating to this graduate of ours who, seeking to take the bar examination had been declined permission to take the bar on the ground that

the examiners felt that he was not emotionally stable. I had two memoranda, which they knew about because I had told them, which were elicited as confidential memoranda from two visiting faculty members two years ago commenting on difficulties they had had with this particular student. I said that I thought it was undesirable that the court should sanction this subpoena and the question was argued informally to three members of the Supreme Court of Arizona. The argument put on my behalf by counsel was that if this sort of thing has to be turned over no faculty member in the future is going to be interested in writing such confidential memoranda and no administrator in his right mind is going to want to receive or retain such a memoranda. Accordingly, this would drive us to operating on our best recollection which isn't nearly as good as a more accurate written record. Accordingly, it was argued that the subpoena would interfere with the internal administration of the university and impair its efficient operation. I thought it was a great argument. The court did not. They thought that the fact that the Buckley Amendment, which had only been in operation two days, meant that the student could get access to their confidential documents and that persuaded them that if the student could see it then why not anybody else including the Board of Examinations and Admissions of Arizona. I don't think that really follows but I had to yield documents. I don't think the decision is of great weight or significance. But the problems are beginning to boil up.

I am sure the Buckley Amendment is going to be amended itself in a way that will make it much more to our liking, but the basic underlining philosophy that an individual ought to have a chance to find out what "they" have against him or against her in the file and have an opportunity to respond, to put something into the file is an idea we've all been enthusiastic about with respect to credit bureaus. (Some of us had a little experience with getting mistreated there). I think we have to accept the fact that this disclosure concept is a basically sound idea. It will have to be accommodated to what I think are really compelling arguments for confidentiality of certain types of information—notably among other things psychiatric counseling information. But we'll learn to live with the new rules.

I haven't given you any answers because I really don't know any answers. So let me conclude. I do think that we need to realize that the law in this country is not administered just by courts or just by lawyers—it is administered by us whether we are in public or private institutions. We are the officers of the law. We need to realize that and to understand that the objective, the basic objective of the law is fair and decent treatment. That is what due process is all about. You can live with that idea. You would not want to live with any other.

Concurrent Workshops

Thursday, December 5, 1974, 9:00 a.m.

THE CHICANO AND GRADUATE EDUCATION

Moderator: Frank Angel, *New Mexico Highlands University*

Rudolph O. de la Garza, *University of Texas, El Paso*

Juan J. Martinez, *University of California, Berkeley*

Tomas Arciniega, *San Diego State University*

A Chicano View Of Graduate Education: Where We Are And Where We Should Be

Rudolph O. de la Garza

During the past decade the American university system has been subjected to vigorous and continuous attack. After an initial understandable but lamentable defensive response by the university community, many administrators and professors began to listen to the complaints being aired in stentorian tones. Many of these complaints focused on the relationship between the university and the community at large, on what many of us in academia derisively refer to as relevancy.

As we all know, campus discontent was but one dimension of a much broader and complex mood that was beginning to take hold across the nation. Although various groups with distinct objectives were involved in campus protests, they shared in common the view of the need to change the university, of the urgent necessity to make the university community cognizant of and responsible to its undeniably central role in society.

From the perspective of Chicanos and other minority groups the demands were simple and explicit: put an immediate end to the institutional racist policies that systematically excluded Chicanos and others from admittance to undergraduate, graduate and professional education; create courses of study that were relevant to Chicano interests, experiences and needs; abandon traditional academic frameworks and archaic professional ethics that encouraged, generated and rewarded research on Chicanos that was premised on the perception of Chicanos as deviant and culturally deprived. Such research perpetuated and exacerbated existing racial stereotypes and furthered the professional careers of individual investigators but never benefitted the minority community.

For many reasons familiar to most of us universities attempted however haltingly to respond to these demands. I would like to mention two reasons many Chicanos feel were central in generating this response. First this was still the boom period of American higher education, and universities,

graduate schools included, were expanding and more than willing—in fact they were anxious—to recruit new students and expand their programs. The second reason is that because of the national political climate funds from governmental agencies and private foundations were available to finance Chicano recruitment and academic programs such as Chicano studies. This, of course, is not to deny that faculty and administrators at many institutions responded to minority group protests on their own. It is to emphasize that there is a clear relationship between the increase in Chicano, Black, and native American demands, the availability of funds to meet these demands and the subsequent initiation of minority group-oriented activities on the part of most colleges, universities and graduate schools.

As we all know, the national mood that fostered these changes very quickly gave way to a conservative reaction in 1968 and that from the Chicano perspective is still with us today, the recent electoral results notwithstanding. This changed national mood is reflected on campuses as was the earlier mood. Student protests are down; there is an obvious increased professional orientation among students, outside funds for campus programs have been cut or eliminated; graduate enrollment is growing more slowly than it was five years ago, the academic job market is tight, in sum, the 1950's seem to be back.

The new campus mood is deceptive and treacherous, however. It lulls us into believing that the problems of the 60's are behind us and that we can now forget about relevancy and return to intellectual pursuits. Our purpose here is to inform you that from the Chicano perspective the problems of the 1960's are still with us and seem to be worsening. We recognize that as graduate deans you are in a position to contribute to the resolution of some of these problems. We know that many of you have heard a great deal about minorities in graduate school, we also recognize that few of you have examined this issue from the Chicano perspective. Your presence here suggests your interest in this topic, and we hope that what we are about to present to you will not only make you more aware of Chicano views and expectations of graduate school but also suggest ways in which to respond to these expectations.

The first point that must be made is that Chicanos are a national minority and not isolated in the southwest. Large Chicano populations are found in almost all major urban areas, and Chicanos are applying to and interested in attending graduate schools across the nation. Moreover, the issues of concern to Chicanos are of concern to all Spanish-speaking minorities in the country. Thus we are raising questions of concern to a population of approximately 15 million. Furthermore, as a population, Chicanos are younger than the national average and Chicano families have more children under eighteen than the average family. Thus while the college age white student population is decreasing, the Chicano pool of university eligibles is increasing. In other words, Chicanos are just beginning to make their presence felt in American higher education, and while demands of

other minority groups may be leveling off, graduate schools should expect to hear much more from Chicanos and Latinos in the foreseeable future.

The question that should be of greatest concern to graduate school deans, however, focuses on the expectation Chicanos have of graduate school. What do Chicanos want from graduate schools? What do Chicanos bring to graduate school? The answer to these questions would be available to us if we could identify and interview a representative sample of Chicano undergraduates and graduate students. We would hope that the Graduate Record Examinations Board or some other organization would fund such a project in the future. At present, however, such data are simply unavailable. Discussions with colleagues and students at numerous institutions do reveal clear patterns from which we are able to generate hypotheses in the absence of empirically grounded generalizations. It is these well-founded impressions we will share with you.

Before attempting to describe what Chicanos want from and bring to graduate school we should first indicate that Chicano graduate students are not homogeneous. For our purposes, Chicano graduate students can be divided into two groups. The first, a definite minority, is a typical graduate student. That is, this student has been so completely socialized into Anglo America that he enters graduate school for reasons totally unrelated to being Chicano. This student is as likely to specialize in physics as in political science, and this student is as prepared as any for graduate school. His professional goals are unrelated to his ethnic identity and are instead perfectly consonant with traditional graduate school norms. He is, in other words, a typical graduate student perfectly at home with the increased professionalism on campus.

The second type of Chicano student, the type with which we are concerned, brings to the graduate school a different set of motivations, attitudes, experiences and objectives which tend to be incompatible with the "return to the 50's" mood. This student is to a great extent a creation of the Chicano movement and his reasons for wanting to attend graduate school are grounded in a rising and intense ethnic consciousness. This student comes to graduate school because he is desirous of developing professional skills which will enable him to return to his community and contribute his newly acquired expertise to the resolution of his community's problems.

Unlike the typical graduate student, this student often does not have the formal academic background to meet traditional graduate school entrance requirements. This is because most Chicano students have received inferior primary and secondary school education as the U.S. Commission on Civil Rights reports have documented. These deficiencies are most devastating to students interested in careers requiring extensive work in mathematics and science. General language skills also suffer from these early experiences. Many students are able to make up these deficiencies in college, but many others do so only partially. Thus many Chicanos graduate from college inadequately prepared for graduate work but intent on receiving a graduate education. These deficiencies reflect systemic problems—problems to which graduate schools contribute I would note—rather than inherent weaknesses

and thus it would be a gross injustice to penalize the prospective Chicano graduate student for problems beyond his control and which can be overcome.

This student is also unlikely to be prepared psychologically for graduate school. He comes seeking professional development so as to be able to apply his training to practical problems rather than professional development that leads to an academic career and a concomitant separation from his community. In the great majority of cases, the formal academic deficiencies and the psychological dissonance described here can be more than compensated for by the student's intense motivation—given the appropriate environment. Graduate schools as they exist today are seldom the "appropriate environment" however.

To begin with, graduate schools do not seem particularly interested in recruiting Chicano students. I. Bruce Hamilton's recent study, *Graduate School Programs for Minority/Disadvantaged Students* reveals that few schools have systematic recruitment mechanisms for identifying prospective Chicano students. Instead, minority faculty and sympathetic Anglo faculty are asked to use their contacts to recruit Chicanos. This disinterest is further evidenced by the attitudes with which graduate schools respond to Chicano applicants. On the one hand, the great majority of schools are willing to modify GRE score requirements or lower minimum grade point average requirements. On the other hand, there is a great tendency to criticize such modifications as examples of reverse discrimination. Redefining admissions criteria even at institutions where such changes have been effected is considered "lowering standards." Such attitudes and practices were detrimental to Chicano enrollment in the 1960's when outside funds and expanding programs were the rule. Today as funds and programs are cut back, these attitudes and practices will have an absolutely devastating effect on Chicano efforts to gain access to graduate training. In 1970, Chicanos represented approximately .5% of all full and part-time graduate students. Recruitment trends as of 1971 indicated that there would be reduced efforts to recruit Chicanos and other minorities in 1972/1973, and thereafter. The implications of such trends for Chicano participation in graduate school are obvious and need no further comment.

There is also an assumption shared by a great many graduate faculty and administrators that there is nothing left to be done once Chicanos have been admitted. That is, they have not internalized the need to change the content of their programs and the very objectives of graduate training if the changed admissions criteria are to have any effect. This reveals the erroneous judgment that Chicano graduate students are typical graduate students, a judgment discussed and invalidated above. This view of Chicanos suggests why only one-third of graduate institutions maintain ethnic identification records, and even fewer follow up on the success or failure of minority students in general and Chicano students in particular.

Graduate schools simply do not seem cognizant of the expectations and motivations of Chicano students. Instead, they try to deal with them as they would with any other student, and by so doing they nullify the positive

effects differential admissions criteria might have had and exacerbate rather than ameliorate the problem.

Graduate schools, including both administrators and faculty, explain their response in traditional and, by our judgment, unacceptably naive language. Their explanation is grounded in the view of graduate schools as primarily and sometimes exclusively serving academic and intellectual functions rather than as major structures intimately and directly affecting the economic, social and political processes of the nation. That graduate schools view themselves this way is well documented. For example, the Panel on Alternate Approaches to Graduate Education sees this effort by graduate schools to isolate themselves from society as one of the problems graduate education currently confronts. "The beleaguering and crisis in graduate education stems in part from failures of awareness within the institutions themselves—insufficient alertness to trends in societal needs, employment opportunities, student interests, and external funding opportunities."

The behavioral translation of the traditional response is, on the one hand, not to recognize or dismiss as irrelevant the motivations with which Chicanos come to graduate schools, and, on the other, to deny the relationship between graduate training and the social, economic and political reality of the nation. Graduate schools are tied to the community in obvious and irrefutable ways. They are the training ground for decision makers, intellectual leaders and role models in all areas. For Chicanos this is a vital function because we have such little representation in all professional fields. As of 1970, 1.4% of all lawyers and judges were Spanish surnamed as were 2.3% of life and physical scientists, 2.0% of teachers and 2.2% of engineers. Given the brain drain of Latin Americans to the United States and the recent high influx of Cubans to this country, it would be safe to say that in none of these fields do Chicanos constitute 1% of the professional populations.

A personal example will illustrate what I mean about the need for role models perhaps even more clearly. When I began teaching at the University of Texas at El Paso students who met me often assumed that I was in Chicano studies, an institute relegated to the periphery of campus life, and that I had only a master's degree. They were surprised to learn I was a member of a traditional department with a Ph.D. They simply had not met Chicano Ph.D.'s often enough to expect that I would be a fully accredited member of the university community.

Whether we admit it or not, graduate schools also legitimize as well as formulate public policy. For years, the description of Chicanos as culturally deprived and inherently less capable has been propagated by reputable scholars, and their views have been used to justify existing social inequalities. The role of academics in shaping the policy of "benign neglect" and in describing the life style of Chicanos and others as a "culture of poverty" most clearly illustrate my point.

By denying or not recognizing these roles, graduate schools in effect dismiss the motivations of most Chicano graduate students. They insist on

resocializing the student into professional academic norms rather than on providing him with the skills he needs to link legitimate intellectual endeavor with his social concerns. As stated in *Scholarship for Society: A Report on Emerging Roles and Responsibilities of Graduate Education in America*, the student is channeled into traditional academic channels in two ways. First, students are discouraged from engaging in activities linking practical experience with academic assignments. Second, the structure of the graduate school is such as to almost insure that there will be few, if any faculty available who share the student's concern to work with the student. Such activism is not rewarded by graduate schools, and professors active in these areas do so at the risk of their professional careers.

Furthermore, many of the questions that most concern Chicano students are dismissed as intellectually uninteresting or inappropriate for scholarly research. This explains to a significant degree why minority studies programs are usually viewed as second class citizens. The Chicano graduate student quickly learns that esoteric and highly specialized topics in European history, literature or culture have an intrinsic worth superior to that of any dimension of the American southwestern experience, and he is told this by professors who are specialists in European subject areas but who know nothing about the American southwest.

In sum, the graduate school as it exists today is unprepared to deal with most Chicano students. If Chicanos are admitted, they encounter an alien environment. Traditional professional norms tend to resist inflexibly the efforts of Chicanos to broaden the boundaries of legitimate academic endeavor. Graduate faculty continue to view their students as future scholars rather than as individuals seeking additional training which they will apply in a variety of areas. Consequently, the graduate school experience tends to alienate the Chicano forcing him to abandon the program or its socializes him into traditional academic tracts which results in his abandoning partially or completely the objectives with which he began.

This type of institutional response can in principle be altered relatively easily, and you as graduate deans are in a position to play a major role in effecting this change. In regards to recruitment, you are in a position to help formulate broader and more appropriate admissions criteria. Again I emphasize that no one is advocating lowering standards but rather broadening standards to include additional factors such as motivation, career objectives and possible contributions to society. In other words, broadening the interpretation of talent along the lines suggested by Warren Willingham. As graduate deans you are also in a position to advocate continued recruitment of Chicanos and to oppose any effort to reduce funding for minority programs. Furthermore, because of the overall decrease in funds available for graduate education in general, you probably will be required to make conscious choices between Chicano programming and other programs. As graduate deans you have the authority to influence and make such choices. We recognize that other activities may have to be reduced or eliminated if Chicano programming is to continue, and we are calling on you to formulate

a view of graduate education that will guarantee continued and increased Chicano programming.

As graduate deans you are also perhaps the central figure in developing a coherent philosophy of graduate education that will incorporate traditional academic concerns with more immediately applicable and relevant—I use the word deliberately—activities. This does not mean that traditional pursuits are to be abandoned. Far from it. It does mean that the relationship between graduate school and society must be made explicit. Graduate training has become a necessary door through which decision-makers in all areas pass. Chicanos are anxious to compete for these positions and thus they are anxious to have graduate schools open to them and to have the graduate experience address social problems as well as purely intellectual pursuits. This does not mean that we are suggesting that all graduate schools develop expertise in Chicano-related matters. It does mean that graduate schools must be willing to encourage Chicanos to pursue their interests and resist the temptation to channel these students into traditional academic activities.

As graduate deans you are also in a position to articulate clearly the responsibility of the graduate school to society. This is a risky business, but it is a task that is within your purview. Officials at the University of Washington committed themselves to changing their admissions criteria because of their understanding of the role of the university in society. In short, they realized that the only way to channel minority group students into key positions was to insure that they had professional and graduate training. What is more important, the view of the American society held by University of Washington officials and shared by many other prominent educators absolutely requires minority group participation and input at all levels of society. Such input and participation benefits society at large and the university as much as it benefits the students. This view was formulated and articulated by officials such as you. The rulings of the Washington State Supreme Court have upheld it and the U.S. Supreme Court has allowed it to stand. In other words, there are precedents to guide you in formulating a philosophy and a program which will bring Chicanos to your graduate schools so that they may profit from the experience, enrich your programs and ultimately return to society and become active change agents as they had hoped to be.

Chicano Graduate Students: The Berkeley Experience

Juan R. Martinez

In 1968 the Graduate Division at the University of California, Berkeley, under the leadership of Dean Sanford S. Elberg launched the Graduate Minority Program (GMP). Ethnic minority students had, of course, entered

and earned advanced degrees previously, but Dean Elberg sought to substantially increase the number.

Among the minority students, the Spanish surnamed, not all of whom are Chicano, comprise approximately one-third of the Graduate Minority Program students. Black and native American Indians are the other two principle groups, although Filipinos and American Asians are also included.

The term Chicano has a special meaning: it is the socio-politically conscious and self-identifying persons and groups originating in the Southwest, Mexico and the rest of Spanish America who in the United States have suffered from racism and institutional exclusion and feel disinherited from the fruits of the lands that are more native to them than to the anglo-American.

Of course, I recognize that no single definition can successfully describe all Chicanos. Their variety and complexity defies easy or comprehensive description. In California, they exceed four million; in the Southwest there are perhaps six million more with an additional five million dispersed throughout the other areas of the country. These figures refer to citizens and permanent residents and not to aliens who may add an extra five to ten million.

The data that follows concerning Chicanos in graduate programs at Berkeley should be viewed in the broad context of who they are, their very large numbers in the population (about 20% in California, for example) and their location in the United States. Also, the data refers only to U.S. citizens as they do not include foreign students and immigrants. Although some students may have been foreign born at the time of the study, neither foreign birth nor immigrant status was a part of their statistics.

Data for the first four years of the Graduate Minority Program are sketchy and approximate. Even after 1972, we find data for certain areas, but not others — regretfully, figures for average elapsed time to earn graduate degrees of different kinds are lacking. Nor can attrition rates be pinpointed with accuracy. Other inadequacies of data will become apparent, due in large measure, to legal restrictions as to ethnic identification. Nevertheless, the outline of Chicano graduate students at Berkeley, hopefully, will prove instructive.

Table 1 provides us with an overview of seven years of what is here termed registered Chicano students. As already pointed out these are citizens with no foreign or immigrant status students included. These figures are for registered students for the fall quarter for the years 1968 through 1974. Only percentages of total graduate enrollments are given for the years 1968-1971. In 1968 only 1% of all graduate students were of this group, increasing to 3% by 1974. The 276 registered in the fall quarter of 1974 includes Chicanos regardless of the year of their admission. It does not refer to those admitted in that year only.

The GMP assists about 500 students with approximately 200 new ones entering annually. Of these 200, approximately 75 to 100 are Chicanos.

Table 2 illustrates three main areas (for the Fall 1974) in which this group is pursuing graduate degrees. It also divides the group by sex, and indicates the numbers in each year of graduate study. Thus, we have 88 students seeking doctorates: 63 males and 25 females. These include the Ph.D. degree in history, sociology, education, etc. and the professional doctorates in social welfare, education, public health, etc.

The second area of concentration is in the field of law. For the three years required for the program, the total is 73 students with 54 males and 19 females. Notice that the total for law is less than the total for those in academic and professional programs leading to doctoral degrees. Also, 1974's first year law class contains only 14 new students, 9 males and 5 females. The second year is exactly twice the size of the first year, and the third year has a total of 31. Rising costs rather than rising standards are the probable cause of the decline in Chicano law students since their LSAT scores have in recent years risen above that which is minimally acceptable at the school of law.

Master's degrees and teaching credentials number 105, which is more than either of the other two areas. Except for the teaching credential program which takes one academic year to complete, these master's degrees often take two years to complete. Typical are those in the schools of social welfare, public health, architecture, business administration, public policy and librarianship. The majority of master's degree seekers are in the professional areas with some in the social sciences, humanities, and the sciences. Some of the data indicate that these are not terminal programs, but rather that they become the proving ground for the doctorate in the same or related areas and/or are entered into as a joint program with a law degree; hence the two plus years shown at the bottom of *Table 2*. For ten students, no data was available.

In *Table 3*, two years, 1973 and 1974, tell us by numbers and percentages the six subject matter areas in which Chicanos are enrolled. The professional schools account for 172.5 students or 62.6% in 1974, and 146 students and 57.9% for 1973. Overall, 1974 increased by 25 students over 1973: 11 of these were in law, 4 in architecture, 3 in city & regional planning, 4 in education, 5 in librarianship, 4 in optometry, and 2 in public administration — all in the professional area.

The losses for 1974 were in the sciences: 2 in agricultural, biological and health sciences, and 4 in the physical sciences. But mathematics more than doubled its numbers: 7 in 1974 against 3 in 1973. The humanities and social sciences remained the same for both years.

A word about Chicanos in the sciences: at first glance, it may seem that the decline in total numbers between 1974 and 1973 is a net loss, but on closer scrutiny, it is more of a decline in a specific area, public health, and in fact Chicanos seem to be more broadly represented in the sciences in 1974 than in 1973.

For example, *Table 4* shows that of the 17 science departments listed here, Chicanos are enrolled in 9 in 1974, as compared to 7 in 1973. More importantly, the loss of 7 in the School of Public Health which overall led to a

net loss of two: 23 in 1974 to 25 in 1973; but a better distribution occurs in 1974.

There was a gain of one each in food science, health science, and in pathology. There was a gain of two in zoology and three in agricultural science. In mathematics, the figures change from three in 1973 to 6.5 in 1974 and a net gain of .5 in statistics for 1974, as shown in *Table 5*.

Table 6 may be quite revealing. Here, the physical sciences lose four between 1973 and 1974. The only gain is in astronomy; chemistry, geology, and physics in 1974 are completely without Chicano graduate students. Also, industrial, mechanical and nuclear engineering declined by three in 1974 and obliterated Chicanos in this area, although other areas of engineering remained the same.

We hope for more gains in the sciences. The Graduate Minority Program for the past three years has utilized a U.S. Office of Education grant to encourage minorities in general into the sciences. As you can see the science project, as we call it, has had mixed results. The problems stem partially from science faculties not being sufficiently sensitive to minorities, and the minorities for their part being inadequately prepared; which is more a function of complicated factors of deprivation than a reflection of any native inability to master the sciences.

Tables 7 and 8, the humanities and social sciences, help dispel popular notions that minorities, Chicanos in particular, are heavily concentrated in these areas. These two divisions at Berkeley jointly contain 26 departments in which there are 63.5 Chicanos, or 22.9% distributed in 22 of the departments.

Basically, these programs are the core of the liberal arts which compared to the professional areas are rapidly becoming non-competitive. They are also the disciplines in which support monies have shrunk more dramatically. Perhaps as much as anything accounting for non-growth of Chicano enrollments herein is the length of time required to earn the Ph.D. (7-9 years on the average) and the job-getting problems after completion of the degree.

Table 9 by contrast shows overall growth in enrollment for Chicanos. Slightly more than 23 went into these professional areas in 1974 over 1973. The four cluster areas are architecture, education, social welfare and law. The School of Public Health, if included, would bring the total to 177.5 and over 64.08% of all Chicanos in graduate programs.

These programs are more structured than those in the humanities and social sciences, and of course are a bit better funded by foundations and agencies. Also, they respond a little more practically to the job market and provide specific skills which many Chicanos feel more relevant for their communities than longer range and more esoteric programs leading to the Ph.D.

We should not conclude that more rigorous academic standards are demanded by the Ph.D. programs and for this reason Chicanos have sought out those areas more lenient for them.

Table 10 gives us a breakdown on grade point averages which overall are competitive. The "risk" factor for graduate schools throughout the country should not weigh heavily if at all, in considering Chicanos for advanced study.

Chicano graduate students originate from a cross representation of almost every type of institution of higher learning.

Table 11 shows not only that 63 students or 22.9% are from out of state but also a healthy 32 of them or 11.5% are from private institutions, even though intra-California.

Approximately 114 come from the eight campuses of the University of California with 30.5% from Berkeley campus itself. We are not growing our own Chicano graduate students, but they are represented.

The matter of financial support, in many ways, is the most crucial issue, since rising numbers are applying for graduate admissions, and with competitive grade point averages and with faculties more sensitive to Chicanos, money often is the pivotal factor as to whether these students will apply and remain to completion of degrees. It also represents the commitment of the faculty and administration to provide advanced study opportunities for a very neglected minority.

Table 12 summarizes the three main sources of support monies. The GMP provided 60% or \$550,000 of the \$909,500 as of fall 1974. The other two areas of contributions might not have been possible without the GMP first having made possible the Chicanos' presence in graduate school in the first place, in order to apply for and qualify for the others. This is more clearly reflected by *Table 12A* which shows the dependence of Chicanos upon GMP support.

More funds were expended than are represented in the \$909,500. Other sources were Federally insured loans, work study, fee deferments, family contributions, etc., but this data was not available.

Table 13 is a breakdown of the summary of *Table 12*. It also shows the number of females vis-a-vis males and the relatively insignificant role that intra-departmental support monies has played, as well as the relatively minor roles of foundations and Federal agencies. Again, without GMP as a floor, the other sources probably would have been even smaller.

A caveat at this point on the GMP—in some departments the existence of GMP resulted in a double awarding system. Some faculties concluded that since the majority of students were not eligible for GMP funds they recommended the TA, RA and fellowships for the nonminorities. The result in some cases was to shift the burden of support for minorities to GMP.

Discussion is underway with Berkeley departments to eliminate this and have them view all their graduate students as potential scholarship/fellowship winners and recommend any whom they feel qualify. Chicanos and other minority students are articulating their feelings on this point and hopefully a satisfactory solution will be forthcoming.

Chicanos in general come from poverty backgrounds and educationally disadvantaged homes. By the time they reach graduate school, their student

loan indebtedness is high, although specific data on this shows a relatively low figure of \$3,600 on the average; our financial aid office believes this an underestimation, since if it were higher, and so stated, they would not be as eligible for further student loans.

Table 14 indicates the number who are unmarried, the number of females to males and some figures on the number of dependents per Chicano graduate student. Also, their ages may be a bit higher than the average graduate student at Berkeley. Chicano males outnumber the females from a two to one, to a four to one ratio, reflecting perhaps cultural restraints on women in this group. This incidentally is not the case with Blacks, native American Indians and Asian Americans where females comprise at least fifty percent of the graduate students of those groups.

Chicanos slowly are coming through the graduate "pipeline". Table 15 is based on our June, 1974 degree list. Again, these are all citizens, and although the data is limited, it does show results of earlier input and planning. It speaks volumes and shows how insignificant the graduate degree output would have been without the GMP.

Enlarging the pool of Chicano applicants is the first step in increasing their number on any campus. There are various ways of achieving this goal. The Educational Testing Service Minority Locator Service provides data on seniors who want graduate study; they specify their areas of interest, their undergraduate major and grade point averages, financial need, etc. Also, ETS's *Graduate and Professional School Opportunities for Minority Students* where graduate schools can list information about programs of interest to minority students can be helpful in the recruitment of student.

In California the nine University of California campuses have begun a recruitment day "fair". Each campus takes its turn in hosting the fair where undergraduate students from nearby schools can obtain information about graduate programs at all the other UC campuses.

Dr. David A. Sanchez of the University of California, Los Angeles, made a study of "Identifying and Recruiting Minority Students" in which he points out that faculty to faculty contacts may be the most effective and least costly means of recruiting minority students. It also helps in the admission process if faculty have taken the initiative through their colleagues at other institutions in generating applications.

Admission problems are related to those of recruitment. We may be past the day when people argued that admission of minority students means the lowering of standards. Faculty should admit students whom they feel have academic promise. As already pointed out, entering GPA's for Chicanos were at least minimally acceptable, and we find, in general, that grades seem to improve after entering graduate school. Perhaps deans and their faculties should consider what that minimally acceptable level is, and admit and award financial support above that line; rather than to admit and award mainly to those who are at the near 4.0 level. Competition is a problem, but so is exclusion — that is, at campuses with relatively small numbers of slots for new students and where the number who are admitted is the function of the highest GPA, those applicants with the highest scores on

standardized examinations and the highest GPA's will capture those slots and functionally exclude others. Thus a little flexibility in this area could help considerably.

I have mentioned money as being crucial. Basically, the availability of money for Chicano graduate students may be the function of reordering priorities. Foundations and federal agencies may be of some help, but the deans and their faculties are the ones who must make the commitment; then the search for the funds to do what has to be done will take on a more promising dimension.

In the areas of programs or programmatic changes for Chicanos, it is important to remember that their academic interest may be quite different from others, even from other minorities. And where faculty are not knowledgeable about Chicanos and their interests, faculty can learn a great deal from new perspectives of our national and international problems. Understanding Chicano interests is not the same thing as letting them do anything they want to. Instead, the disciplines impose their own frameworks within which Chicano interests could accommodate themselves as long as there is understanding that the particular subject matter to be investigated is not rejected simply because faculty are not familiar with them.

In any case, the Chicano graduate students cannot in the foreseeable future be an overwhelming problem to graduate schools throughout the country simply because their numbers are over-all very small — about one per cent of all graduate students. Thus, the dimension of the issue makes it feasible for any graduate school to invite Chicanos to become a part of its experience.

TABLE 1
Chicano Students
1968-1974

<i>Date</i>	<i>New Stds.</i>	<i>Ret. Stds.</i>	<i>Total Number Regis.</i>	<i>Total Graduate Students</i>	<i>% of Total Reg.</i>
Fall 1968†			91		1.0%
Fall 1969			179		1.8%
Fall 1970			184		1.9%
Fall 1971			229		2.3%
Fall 1972					
Mexican			168		
Spanish-surname			<u>62</u>		
			230	(9269)	2.5%
Fall 1973					
Mexican	68	124	192		
Spanish-surname	<u>29</u>	<u>31</u>	<u>60</u>		
	97	155	252	(9022)	2.8%
Fall 1974					
Mexican	63	121	184		
Spanish-surname	<u>34</u>	<u>58</u>	<u>92</u>		
	97	179	276	(9345)	3.0%

† 1968-71 — approximate data only.

TABLE 2
Registered Chicanos
by Degree Goal and Year
for 1974

<i>Doctoral Degree</i>	<i>Male</i>	<i>Female</i>	
1st year students	12	10	
2nd " "	20	2	
3rd " "	8	7	
4th " "	12	4	
beyond 4th year	<u>11</u>	<u>2</u>	
	<u>63</u>	<u>25</u>	88
<i>JD</i>			
1st year students	9	5	
2nd " "	23	5	
3rd " "	<u>22</u>	<u>9</u>	
	<u>54</u>	<u>19</u>	73
<i>Masters Degree or Teaching Credential</i>			
1st year students	32	25	
2nd " "	24	7	
beyond 2nd year	<u>12</u>	<u>5</u>	
	<u>68</u>	<u>37</u>	105
Subtotal			266
No information available			<u>10</u>
Total			276

TABLE 3

*Registered Chicano Students According
to Fields of Study*

	1974 Students Registered	%	1973 Students Registered	%
Agric., Biol., & Health Sciences	23	8.	25	10.
Humanities	24	9.	24	9.
Math & Statistics	7	3.	3	1.
Physical Sciences	10	4.	14	6.
Professional	172.5	62.	146	58.
Social Sciences	<u>39.5</u>	<u>14.</u>	<u>40</u>	<u>16.</u>
	276	100%	252	100%

TABLE 4

*Registered Chicanos
in
Agricultural, Biological and Health Sciences*

	1974	1973
Agricultural Sciences	3	—
Anatomy	—	—
Biochemistry	—	—
Botany	2	2
Entomology	1	1
Food Science	1	—
Forestry and Conservation	—	—
Genetics	—	—
Health Science and Medical Education	1	—
Immunology	—	—
Molecular Biology	—	—
Paleontology	—	—
Pathology	1	—
Physiology	2	2
Public Health	10	17
Wildland Resource	—	—
Zoology	<u>2</u>	<u>1</u>
	92	23 25

TABLE 5
Registered Chicano & Spanish Surname
in
Mathematics & Statistics

	1974	1973
Biostatistics	—	—
Mathematics	6.5	3
Statistics	<u>.5</u>	<u>—</u>
	7.0	3

TABLE 6
Registered Chicanos
in
Physical Sciences

	1974	1973
Astronomy	1	—
Chemistry	—	1
Chemical Engineering	1	1
Geology	—	1
Physics	—	—
Engineering		
Industrial	—	1
Mechanical	—	1
Nuclear	—	1
Civil	4	4
Material Science	1	1
Electrical	<u>3</u>	<u>3</u>
	10	14

TABLE 7

*Registered Chicanos
in the
Humanities*

	1974	1973
Art	3	3
Classics	1	1
Comparative Literature	4	5
Dramatic Art	—	—
English	3	4
French	—	1
History of Art	—	—
Rhetoric	—	1
Linguistics	1	1
Music	—	—
Near Eastern Language	—	1
Philosophy	2	1
Romance Language & Literature	1	2
Slavic Language	2	—
Spanish	6	4
Romance Philology	1	—
	24	24

TABLE 8

*Registered Chicanos
in
Social Sciences*

	1974	1973
Anthropology	5	6
Agricultural Economics	1	1
Economics	1	1
Folklore	1	—
History	12	7
Political Science	1	2
Psychology	2.5	3
Sociology	15	20
Demography	1	—
	39.5	40

TABLE 9
*Chicanos Registered
in
Professional Degree Programs*

	1974	1973
Architecture	11	7
Business Administration	6	6
City and Regional Planning	5	2
Criminology	3	5
Education	41	37
Forestry	1	—
Journalism	.5	2.5
Landscape Architecture	1	—
Law	73	62.5
Librarianship	6	1
Public Policy	2	—
Social Welfare	18	21
	<u>167.5</u>	<u>144</u>

TABLE 10
*Incoming and Current GPA
for Currently Registered Chicanos
1974*

	<i>Female</i>		<i>Male</i>	
Fall 1961	—	—	1	3.04
Fall 1964	1	3.00	1	3.05
Fall 1967	1	3.00	—	—
Fall 1968	1	3.07	2	3.45
Fall 1969	—	—	7	3.07
Fall 1970	2	3.35	6	3.27
Fall 1971	4	3.45	15	3.41
Fall 1972	16	3.15	26	3.01
Fall 1973	13	3.24	56	3.16
Fall 1974	<u>36</u>	<u>3.24</u>	<u>54</u>	<u>3.17</u>
	74	3.23	168	3.17

Table 10 continued on next page.

TABLE 10 (Continued)

*GPA for Course Work Taken at UCB during 1973-74**

Female	22	3.65 gpa
Male	73	3.64 gpa

*The 276 students registered in 1974 include 59 continuing law students and 97 new students for whom no grades are available, as well as 25 others for whom no data was available.

TABLE 11

*Source Institutions
for*

Registered Chicanos 1974

UC Berkeley	84	30.5
Other UC campuses	30	10.9
Cal. State universities	67	24.2
Cal. private schools	32	11.5
Out-of-state schools	<u>63</u>	<u>22.9</u>
	276	100%

TABLE 12

*Dollar Value of Cumulative Awards
Received by Currently
Registered Chicanos thru 1974*

GMP provided	\$550,000	or	60%
Other Awards	281,500	or	31%
TA and RA's	<u>78,000</u>	or	<u>9%</u>
	\$909,500*		100%

*NOTE: This does not include funds these students may have received from the Office of Financial Aids as we do not have access to this data, e.g., Federal Insured Loans, Work Study, Fee Deferrals.

TABLE 13

*Cummulative Awards
Received by Registered
Chicanos thru 1974*

	<i>Female</i>		<i>Male</i>	
CMP	50	52.1	109	48.6
TA	6	6.2	23	10.2
RA	4	4.2	11	4.9
Ford	3	3.1	7	3.1
USPHS	3	3.1	10	4.5
NIMH	3	3.1	7	3.1
CLEO	4	4.2	6	2.7
OTHER	<u>23</u>	<u>24.0</u>	<u>51</u>	<u>22.9</u>
	96	100%	224	100%

TABLE 14

*Dependency Status and Average Age
of Registered Chicanos 1974*

	Male	Female
Single	81	44
Number with one dependent	22	15
" " two "	18	2
" " three "	7	1
" " four "	5	1
" " five "	2	1
" " six "	4	—
" " seven "	1	—
" " eight "	—	1
	140	65
Average age	27.5 years	28.1 years

TABLE 15

*Degrees Awarded June 1974
to
Chicanos*

Ph.D.	2
Advanced to Candidacy	7
JD	22
M Public Health	4
M Social Welfare	11
M Business Administration	2
Other MA	7
Other MS	2
Credential	8
	65

THE ADMINISTRATION OF GRADUATE PROGRAMS AT INSTITUTIONS WITHOUT THE DOCTORATE

Moderator: Mary Evelyn Huey, *Texas Woman's University*
J. Alan Ross, *Western Washington State College*
Lawrence H. Rice, *Idaho State University*
James J. Cowgill, *Seattle University*

Administration and Organization of Graduate Degree Programs

J. Alan Ross

The group here assembled is likely to come from relatively smaller colleges or universities. By this I mean enrollment of 10,000 or less. An exception would be the California State College and University System which is atypical in size of institution, but likely quite similar in problems.

Some things about administration are not related to the size of an institution. My first job was on a steam tug. It had a full condensing cycle which is replicated on the largest steam vessels afloat, be they super tanks or battleships. My point is that conceptual skills, the need and necessity to keep a total program in focus, are not related to size or number. A small diamond can be as perfect in color, brilliance, and faceting as the finest crown jewel, and in this lies the fascination of the diamond and perhaps some of the satisfaction of a graduate deanship.

The technical skills of the graduate dean differ little with size of institutions. There tend to be only more of the same in larger institutions, since the functions of admissions and program monitoring leading to degree award take place in all programs, regardless of size.

A principal difference related to size does lie in the administrative matrix in which the graduate dean is placed. It is my estimate that many graduate deans here represented, coming from smaller institutions, discuss their problems and program developments directly with the president. In other words, there is a short line of administrative authority. There is no great merit in this, but it can be said that one is lucky when there are not too many assorted individuals making ego demands upon a shared life space.

In my view, the key characteristic of an administrator is his ego demand. Administrators are likely to appear to be "I'm O.K." types. But some have an insatiable desire for personal limelight and appearance of power, adding additional responsibilities or reportages like a collector of campaign buttons, until they stand across the pathway of progress with a gratifying number of supplicants seeking an appointment or wasting time in their outer office. This is not the way of the graduate dean.

The graduate dean can find his satisfaction in developing a program of gem-like simplicity and value if he can himself resist the allure of adding ad-

ditional programs such as certification of teachers at the fifth year of management of continuing education programs and the like.

The graduate dean can place administrative hierarchy in proper perspective if he sees his power or platform for action as an extension of the necessary and historical concern of faculty for program planning development and operation. The curriculum and its application are the domain of the faculty within the parameters set by the charter or objectives of the institution as interpreted by its board of trustees or regents.

The power which a graduate dean possesses is not a function of place in an administrative hierarchy. No reservoir exists from which power can be piped along an administrative hydraulic system and applied to the solution of problems. Rivers may have been used to clean stables, but are not suited for erecting the delicate apparatus of a graduate program.

Mary Follett put it well in the *New State*, in authorship of the foregoing proposition, when she pointed out that the only power which we as administrators possess (that is power suitable to the solution of problems) is the power which we generate through action together or with our colleagues.

And how do we interact? First, by the almost universal graduate council. I personally seek a strong graduate council—one which has broad responsibilities which might run somewhat as follows:

1. Adopts regulations for admissions of applicants to the graduate school
2. Adopts standards and regulations for advancement of students through graduate programs and for the awarding of all graduate degrees
3. Coordinates the approval processes for new graduate programs and concentrations proposed by departments, interdisciplinary committees, or colleges
4. Reviews existing graduate programs periodically
5. Approves all courses for inclusion in graduate programs
6. Hears petitions upon appeal with respect to variations from adopted standards
7. Recommends students for the awarding of graduate degrees on behalf of the faculty
8. Approves for employment as graduate assistants in accordance with adopted standards

9. Keeps the graduate bulletin in continuing revision for periodic publication
10. Responds to specific charges from the Academic Coordinating Commission.

How do we get to a next level of involvement? In some form or other there must be carefully chosen faculty members whose interest in the graduate enterprise induces them to spend time and effort in support of the graduate program with which they are academically associated.

Quite commonly the term graduate program advisor is attached to this position, and it may or may not receive load credit depending upon the size of the program. The responsibilities of the position go considerably beyond student advisement and lead to a description somewhat as follows:

Provides liaison between a department or program and the graduate dean working with the department chairman and such graduate committee as may be organized in the department. Familiarizes himself with all regulations and policies, including affirmative action, and counsels students regarding programs.

1. Receives from graduate office applications for admission and obtains review within the department, forwarding recommendation to graduate dean.
2. Recommends students for advancement to candidacy when all qualifications have been met.
3. Approves student programs within adopted framework.
4. Recommends candidates for degree when requirements have been met. Causes area test to be prepared and evaluated.
5. Keep curriculum for program under continuous re-examination and recommends changes to graduate council.
6. May advise with department chairman regarding thesis committees, jointly appointed by department chairman and graduate dean.

The graduate dean, by this strategy, gains greatly in ability to serve programs. It has been my experience that there is a high level of willingness to serve in this capacity because of the genuine satisfactions involved in assisting graduate students.

One of the aspects of the current scene which is providing graduate deans new experiences is the tendency to move off campus and into field centered programs. We have a budgetary request which would enable us to establish centers in areas not served by graduate degree granting institutions. Career enhancement opportunities will be offered in these centers, comparable but more limited than those available to employed persons in college communities.

It seems important that graduate deans and graduate councils maintain sufficient detachment from such ventures that they are able to evaluate outcomes with rigor objectivity.

Administrations have a life cycle which I will not here spell out in detail, but the decline has begun when advocacy of programs has been so vigorous that the opportunity to evaluate is in a large measure lost. Sagging efforts must be bolstered long past the point of reasonable return, and negative evidence is blindly ignored. Situations of this kind have often developed in connection with grant supported programs where the impetus was external to those primarily involved in the program.

We must operate out of the sincere and genuine belief that the capacity to develop worthy programs lies in the faculty. This is a necessary belief since if the opposite were true, no action on the part of a dean or council could lead to a worthy end. Deans must satisfy their own ego needs through assisting others in their accomplishments and in identifying with the total structure which emerges out of the efforts and aspirations of many.

As in all program modifications, the question of quality is primary. Graduate deans in their administrative practices have been called the conscience of the college or university. We must by the nature of our assignment accept the responsibility for admitting the able and providing them worthy programs which produce the competencies appropriate to degree award—and do this in one year plus. It is clearly understandable that our graduate gyroscope, rotating at the implied velocity, does not permit detours into open admission, pass-fail grading, or student broadly self constructed programs.

A graduate dean has virtually no budget and is not likely to have a faculty staff directly under his employ. Freed of these responsibilities, the graduate dean can concentrate upon satisfying relationships with faculty who are working at their highest level of personal fulfillment in the graduate enterprise. It is our opportunity to make their work effective, their aspirations more nearly realized, by serving them through administration.

Admission, Standards, and Procedures in the Graduate School

Lawrence H. Rice

In approaching the topics assigned to me for this session (including application procedures, admission criteria, grading practices, assessment of quality, etc.), I have been guided by the assumption that I would soon

reach a point of diminishing returns in addressing myself to specific procedures and practices before a group of deans representing such highly diverse institutions. What I wish to do is focus upon the implications of a remark that Dean Rhodes made last year in similar circumstances, a remark to the effect that the central difficulty or bringing coherence to a discussion of graduate school procedures and regulations is that there is no coherent model for them, but, rather, a vague configuration which—to use my own analogy—is reminiscent of Milton's Chaos: a place with a design but one that a traveler might miss on his maiden flight through it. I suspect every graduate educator, and certainly every graduate dean, has a rather fixed idea of what graduate education *is*, but opinions and official regulations on what needs to be done to achieve it are indeed legion.

This condition is further complicated by the fact that a graduate dean inherits an array of regulations and operating procedures in whose development he may have played a meager role—or no role at all. Indeed, if your experience is like mine, few months will pass—particularly during the first couple of years of your tenure—when someone doesn't remind you of a regulation or procedure you have never really heard of yourself. This phenomenon is the occasion of an axiomatic rule governing the turn-over of graduate deans: turn the graduate deans over but leave the office staff intact.

In analyzing graduate school regulations, I have concluded that they fall into three general categories: those which make sense and are readily defensible, those which appear to make sense but may or may not when challenged, and those which made sense at one time but no longer make any sense.

Countless examples come to mind in each category, but the metaphysical quality of certain regulations is well exemplified in a minor, but well-nigh universal, regulation of graduate schools, namely that theses and dissertations shall be reproduced on one side of the page only and on paper with high rag content. The one-side-only mandate may have made sense when thesis copies were made with carbon paper (a procedure seldom used today), but I seriously doubt that the rag-content factor, designed to ensure the long life of a much fondled document, ever made sense except to the paper industry. I guess we keep thinking—or hoping—that one day there will be a big run on theses and dissertations.

In this state of affairs, the style of a graduate dean, at least as it relates to operational matters, is determined not so much by how he reacts to a cohesive body of venerable traditions on graduate education but how he responds to the countless options he has in declaring this or that “right” for the programs he supervises. With this thought in mind, I have chosen to direct my remaining comments to a brief portrait of how graduate schools function in at least most of those areas of governance assigned to me. Hopefully this information will give you a clearer notion of where your institution fits into the general pattern of graduate universities. My information has been assembled from the graduate bulletins of thirty-eight universities, ranging in size from New Mexico Highlands, with an enrollment of

2,423 to the University of Arizona, with an enrollment in excess of 27,000 students. Geographic distribution ranges all the way from Vermont to California and from Alaska to Florida. I have concentrated upon public institutions, but four private schools are represented as well.

One piece of good news emerged immediately in my survey: if an institution has a graduate program, it is virtually certain to have a graduate dean. Thirty-eight of the thirty-eight institutions sample have graduate deans, so I take it we are not going out of style. However, with respect to direct involvement in admission procedures, it appears that graduate deans begin to phase themselves out of certain tasks when institutions pass the 10,000 mark in student enrollment. For example, graduate deans give final approval for admission in fifteen of the twenty schools enrolling under 10,000 students; whereas only five of the larger institutions require such approval. A mere 52% of the institutions surveyed require involvement of the graduate dean in final approval of admission. Nonetheless, admission requirements (I am speaking primarily of master's programs) are left to the whimsy of departments and colleges in only six of the schools. Eighty-four percent exhibit specific requirements for admission to any and all programs.

Twenty-five of the institutions (71%) have established minimum grade point standards for admission, the lowest standards being a 2.0 in undergraduate work (used by twelve institutions) and the highest being a 3.0 in upperdivision study. Ten institutions that have no formal grade point minimums apply such measures as "upper half of the graduating class," letters of recommendation," "record should indicate success," etc.

In the event that you have wondered (and what graduate dean has not) about the role which G.R.E. scores play in graduate admission, it is interesting that thirteen of the institutions require G.R.E. scores prior to admission to the graduate school, and of course many departments require the scores whether the graduate school does or not. It is important to observe, however, that it is uncommon for graduate schools to stipulate minimum G.R.E. achievement. Only five of the thirty-eight schools do. And, curiously enough, only three of the institutions require the advanced test prior to admission. The G.R.E. is used as *some* gauge of ability in thirty-three of the institutions, frequently as a requirement prior to degree candidacy. As you can see, the G.R.E. is very much "in" throughout the nation.

One of the curiosities in graduate education is the widely held opinion that something goes wrong if a student takes too long to obtain his degree. Alas, there appears to be little agreement on how long is too long. Of the thirty-eight schools surveyed, thirty-seven state specific time limits for the master's degree, with the following breakdown:

3 yrs	4 yrs	5 yrs	6 yrs	7 yrs	8 yrs
1	1	8	16	8	3

The University of Vermont has complicated this matter further with a novel scheme that requires full-time students to finish in three years, part-time

students to finish in five years, evenings-only students to finish in five years, and summers-only students to finish in seven.

With respect to transfer of credits (an increasingly troublesome matter for graduate deans), all surveyed schools allow transfer. But, in spite of a good deal of talk about the desirability of loosening transfer policies, 60% of the institutions permit the transfer of no more than six semester hours. Six allow transfer of nine credits, four permit twelve, and one has gone the promiscuous route to fifteen. "B" or higher grades are universally required in transfer policies. (Duke University has a sensible policy in which allowable transfer is determined after the student has demonstrated his worth on the Duke campus.)

The puzzling thing to emerge from this survey concerns the state of disrepair into which the work *candidacy* has fallen in graduate schools. The word appears in twenty-seven of the thirty-eight catalogues, but what it signifies is something of a mystery. One institution awards candidacy status to students as soon as they are admitted to the graduate school, two award it during the first semester of study, fourteen after the accumulation of six to twelve semester hours, and then string things out to the last semester of study. Criteria for candidacy, when stated, vary widely, and it *appears* to be the case that graduate deans are frequently left out of the candidacy process. At the doctoral level, candidacy generally follows as a matter of form after students have passed so-called preliminary examinations, but at the master's level candidacy is in a state of glaring confusion—an undesirable condition in a legalistic age. I would certainly urge any new graduate dean to discover what candidacy means on his campus.

My concluding remarks concern graduate school policies on grading. As General Custer said, "We have a problem here!" and I only wish I had the time to reveal to you the many I have had on this matter. But to the facts.

Of the thirty-eight schools sampled, all but one use traditional letter grades to evaluate the major portion of a student's performance. A similar consistency obtains in the designation of B-level work as the minimum standard for graduate performance at the master's level, with assorted adjustments upward at the doctoral. Only one institution permits an accumulative g.p.a. below 3.0.

The usual grading system is A-F, but several schools have exorcised the D from the five-point scale; Tulane has narrowed things further by disenfranchising C as well, employing an A, B, F scale. Of the schools that use the C grade, fourteen (37%) forbid the application of C credits to degree programs but nonetheless compute such grades in overall g.p.a.—clearly a form of double jeopardy. Sixty-three percent of the schools allow use of C grades in degree programs, but most schools stipulate a fail-safe level of toleration of C performance, ranging from a maximum of two C courses to 30% of a student's total work. In a few cases (my own institution is a case in point) C grades are designated as cause for dismissal. All in all, graduate schools view C as a mark of suspect work and tend to use the grade as a cautionary sign. In undergraduate terms, the graduate C is a D- or F+.

Concerning pass-fail options, I am pleased to report that this lunacy has not caught on in the schools sampled. Although 68% of the schools use pass-fail, the option tends to apply to research and thesis credits and to specified courses amenable to pass-fail evaluation. One institution permits students to take two-fifths of their credits on pass-fail; whereas five state categorically that pass-fail is prohibited in all graduate work.

Grades used to evaluate thesis and dissertation work comprise an inviting study in themselves. *P* is used, *S* is used, quality "points" are used, *R* is used, and one wag¹ist institution grades passing theses with the grade to end all grades—*Z*. I wish I had thought of that.

From the point of view of the graduate dean, the problem I referred to resides in the temptation to sponsor, or at least submit to, grading reforms designed to remedy the deficiencies in our present system that appear to shout out at us from the kind of data I have just presented or that whisper to us when we think individually about the way *we* grade graduate students, and the way we were graded. It is my personal opinion, one based upon experience as well as intuition, that the grading reforms so far concocted—by people with generally good intentions—provide cures for grading maladies that are worse than the diseases they are designed to remedy. In support of my point of view, I might direct you to the graduate bulletin of the University of Connecticut, which contains a forthright confession of error in adopting and maintaining for five years, an idiosyncratic system of grading that not only confused professors but also worked a hardship on Connecticut's graduates when outsiders evaluated their transcripts.

The fact is that you and I know what graduate grades mean, particularly within our own disciplines. In my own field, *A* means "right for the program," *B* means "tolerable in the program," and any other grade signifies bad news. As I see the situation, this advantage of knowing—of sharing a common set of signals—is of transcendent importance in any consideration of grading reforms.

In providing this brief portrait of graduate schools in action, I trust I have not suggested that I equate graduate education with the diverse rules, regulations, and rituals that appear in graduate bulletins. They are, of course, means toward loftier ends and do not ensure those ends however grandly stated. Nonetheless, graduate deans are expected to know about them, and one of the things we try to do for each other is share some of the information together that we lack the time or incentive to collect individually.

Problems in Graduate Study: Challenge or Defeat?

James J. Cowgill

A few years ago, the topic for the annual meeting was non-traditional graduate programs! I was surprised to learn that the large universities considered programs for the part-time and non-continuous student as non-

traditional while graduate schools in colleges and universities which offer master's programs only were already offering such programs as a matter of policy. The offering of programs designed for part-time graduate students was considered as a service to the community. In many instances such part-time programs gave the college or university its main source of graduate students, made the graduate school financially more stable, and assisted in the hiring of new faculty who insisted on having the opportunity to teach some graduate classes. These part-time programs were non-traditional for the universities offering doctoral programs because of regulations on residence and continuous enrollment which applied to all graduate students.

It apparently was easier in the beginning for the non Ph.D. granting institution to accommodate itself to the needs of those whose path to a master's degree had to be through part-time, non-continuous enrollment in a graduate program. This attitude was expressed at the 1971 CGS meeting by a speaker from the University of Akron who entitled his talk, "Blessed be the Part-Time and Non-Continuous Graduate Students for they May Inherit Graduate Education".¹

Soon, changes were made in the course requirements. Non-Ph.D. granting institutions were able to keep the research thesis requirement for the master's programs longer than the larger institutions who had to give up the requirement because of the large number of students enrolled in master's programs. Soon the non-Ph.D. granting institutions had to yield to pressures not to require a research thesis because the student found it easier to take more course work.

Then the pressures come requesting entirely new programs which would improve the background of the graduate student to qualify him for a new job or would improve his performance in his present position. In many cases, because of a lack of trained personnel, people have been promoted to positions for which they are ill prepared. In other cases, because of advancements in modern technology and/or the improvement in managerial procedures, very few people can qualify for new positions and many old ones without special training. Colleges are asked to provide this training at the master's level.

When the graduate dean looks at a proposed new program, many nagging questions haunt him. Are the proposed courses truly graduate courses? He is disturbed still further when it is proposed that there be few if any prerequisites for the courses and that any bachelors degree would qualify an applicant for the program. For example, a person would be admitted to a master's program in the area of community services who never has taken a fundamental course in sociology and who knows nothing about statistics. A quick course is suggested to qualify the student for advanced work, but it in no way is equivalent to the college's undergraduate offerings in basic sociology and statistics.

Then the dean is asked to admit an older student who has had only two years of college work but who has twenty years of experience on the job. It is proposed that his job experience which always did require, for example, a

knowledge of modern social problems be considered as a substitute for completing college or its equivalent in maturing the job-holder. In this case, the background of the applicant for graduate study can become a most serious problem. The remedy suggested is a preliminary directed reading program after which the applicant is examined. If he performs satisfactorily, he could be given a bachelor's degree on the external degree program and, with this degree or without it, be admitted to the graduate school.

In an area where I am competent to judge the adequacy of master's programs, that of the MSNS or MAT degrees for high school teachers, I do know that high school teachers receive master's degrees for completing programs in chemistry, mathematics and physics which are inferior as programs in mathematics and science to programs offered in the same areas for the bachelor's degree. In this particular case, applicants for admission to these programs are qualified teachers who have spent a large part of their college career taking courses which specifically prepared them for a teaching career, so that both their undergraduate and graduate programs have prepared them to be teachers.

This unity of purpose does not exist in the overall educational program for one whose undergraduate work and graduate work do not have a common purpose beyond that of training the individual. A person taking 45 quarter hours of courses on a Master of Public Service program could have fewer courses in subjects which prepare a person to be an administrator in a government office than one who takes a bachelor's degree in public affairs according to a program demanding not only 60-70 credits in courses in political science, but also a certain number of related courses in economics, psychology and sociology.

In evaluating new programs which are intended to prepare people to fill particular positions in the professional world, primary consideration must be given to the adequacy of the preparation. Even though much of the subject matter taught belongs to areas which traditionally are non-professional, these programs which are designed to prepare people for particular jobs are to be treated as professional programs and must be evaluated and modified accordingly.

When there is a request for a new program at the master's level to accommodate the needs for further training of professional people, some research should be initiated into the need and desirability for training at the master's level in preference to a much shorter program of a few technical courses. Perhaps, even one or more workshops would be more appropriate. In the end, a certificate of completion of a training program would be given.

In other cases there is a real need for training at the master's level, especially where the job a person is seeking requires that the person be able to direct research programs and to evaluate the results for practical application. Lack of training in fundamentals could result in a person being inept in applying the basic tool of research. To forestall such a result, careful consideration must be given to the applicant's previous academic background and training at the undergraduate level in the prerequisites for graduate

work, such as training in statistical methods, for conducting research cannot be neglected or given just token attention.

There have been problems in having faculty from the college of arts and science offer basic courses for professional programs. There is a tendency for students in professional programs to be vocationally oriented rather than knowledge oriented. For example, in courses in sociology or psychology, these students generally are interested only in how the material relates to their particular job situations. The problem of relating course material in individual needs is further complicated if the students in a class have widely divergent types of employment. Such problems have led program directors to substitute courses and professors from professional schools and, as a result, the training is less liberal and, at times, very superficial in fundamentals.

On the other hand there are distinct advantages in having older students enrolled in a course. The student who has had considerable experience in a professional position has much to contribute to class discussions and the learning experience for the class can be greatly enhanced by dialogue between several students who bring a variety of professional backgrounds to graduate study.

In many cases it has been decided that it would be preferable for a professor from the university campus to travel to an off-campus site where most or all of the students in a class are employed. The professor needs reimbursement for expenses for travel and, if the course is an overload for the professor, for the time spent just in travelling from his office to his off-campus classroom. Consideration must be given to overburdening professors with such time-consuming assignments.

When courses are offered at off-campus sites for graduate credit, selection of the enrollees in the course should be left to the university. No end of problems arise if the university accepts a contract to give courses for graduate credit at an off-campus site to persons selected by the employer. Such a contract can be financially lucrative to the university, but usually is a source of many splitting headaches for the graduate dean as well as the occasion for a few misunderstandings with the registrar's office.

In the external degree programs, the offering of graduate programs at times and places convenient for the student has gone far beyond scheduling classes on or off the campus in the late afternoon and evening. In many institutions these programs are administered by the extension division. These programs are designed for those who do not have access to the campus for geographic or for psychological reasons. Although in some universities these external programs are delivered in a traditional fashion by instructors who go to remote areas or to industrial or business sites to lecture in non-traditional surroundings, in other universities, the mode of delivery itself is non-traditional.² The instructor who travels to remote areas may give intensive lectures on week-ends a few times a year or for one week each quarter, but along with these lectures he also gives direction for individualized study which is to be the student's task for the remaining part of each quarter. Programs like these can be directed by the regular faculty as an overload or

as part of a regular teaching assignment. In other modes of delivery, the instructor or mentor need give no lectures, but only directs the student in his reading and research and either by himself or with others tests the achievement of the student and declares that he has completed all the requirements for the master's degree.

The modes of delivery for the external degree program are being used to some extent in essentially on-campus programs where credit is given for courses where the student attends no lectures but only receives directives for his study from a mentor. This method is particularly effective for those who are used to independent study and are turned off by highly structured programs.

The methods of the external degree programs are useful, as mentioned previously, for improving the undergraduate background of applicants for master's programs. An external degree program can be used in assisting an applicant to complete an undergraduate program. When credit is requested for unsupervised field experience, the student can be asked to report on his work and be tested on it in the same way he would write a report and be tested for a course on an external degree program.

The more requests a college or university receives to offer professional or quasi-professional programs to an adult population, the more external degree programs will be developed and/or the methods of these programs will be incorporated into on-campus programs.

Evaluations were ordered by a state commission in external degree programs in California for all their external degree programs in the early years these programs were offered.³ The commission found that when external students were compared with on-campus students the external students had been superior to, or at least equal to, on-campus students in academic performance. Those interested in making similar comparisons will find the methods of evaluation developed by the California commission very interesting and useful.

Graduate programs in private colleges are sorely affected by the problems created by high tuition costs. For the present, they are kept alive in those areas where employers grant subventions to their employees who are successful in their graduate studies. All institutions have to get the most out of limited budgets today and costs of new graduate programs can be lowered when more use is made of existing courses in the new programs and as few as possible new faculty members are hired. There is always a tendency to proliferate course offerings when a new program is approved, and the graduate dean may find a solution to some budgetary problems by being very strict in his requirements for justification for new course offerings.

Another problem for graduate deans is the insistence of minority groups and sometimes of the Federal government that applicants from these groups be accepted in larger numbers than they were in the past.⁴ This means that some applicants from minority groups will have to be given special consideration through "special admits". Although special admission is sought for those who do not meet the regular qualifications for graduate study, no one advocates that these minority students qualify for

graduation according to inferior standards, otherwise the purpose of seeking advanced education would be defeated. No one would hire a person who is known to have an "inferior" degree, nor would anyone seek professional help from such a person.

It is up to the graduate dean to see that those admitted with deficiencies have an opportunity to make up these deficiencies under special guidance and that they be tested to make sure that they are academically prepared for each class in which they enroll, and will not be "washed out" of graduate school merely because they do not have the necessary prerequisite training for their graduate coursework and not because of lack of talent.

The demand for graduate education, especially at the master's level, is increasing and graduate schools are being challenged to meet the needs of the public both as to the great number of people applying for admission and to the ever increasing variety of programs required to qualify them for professional employment. Much is expressed in the new theme of a women's college, "A New Dimension in Higher Education for Today's Woman" which emphasizes a career oriented program for women.⁵

Even a television network put the problem on the line with a documentary: "Higher Education: Who Needs It?"⁶ J. Boyd Page, in a talk given at the thirtieth annual meeting of the Midwestern Association of Graduate Schools, calls upon graduate deans not to be afraid of the demand for new programs and new modes of delivery in graduate study, but encourages all of us deans to look ahead and be a guide and inspiration to the faculty who are called upon to do the planning for the future.⁷ If the new programs of the future are well planned there need be no fear that graduate education will not be quality education.

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THE ADMINISTRATION OF PROFESSIONAL GRADUATE DEGREE PROGRAMS

Moderator: Robert M. Bock, *University of Wisconsin, Madison*
Gail Fullerton, *San Jose State University*
Elmer R. Gooding, *Arizona State University*
Robert M. Bock, *University of Wisconsin, Madison*

Robert M. Bock

In this session we hope to place before you for reflection and discussion viewpoints on the administration of graduate professional degree programs as seen by a strong and active master's institution, a professional school and a large complex Ph.D.-oriented graduate school. Dean Gail Fullerton of California State University, San Jose and Dean Elmer Gooding of Arizona State University represent the master's and professional schools.

I will open the session with some general observations on administration of professional programs and will also be the discussor for the complex university. Please plan to enter into this discussion actively, your speakers intend to allocate considerable time for a discussion period.

Professional graduate programs have been successfully administered as post-baccalaureate offerings of professional schools or as professional practice oriented programs of a graduate school. The boundaries between professional and academic programs are often blurred and may sometimes be two options building on a common core in a single department. In several fields they must relate to accrediting bodies or licensing requirements and in others no such outside pressures on program structure are found. Medicine, education, and law are among the established and highly structured professional programs. Business, pharmacy, engineering, architecture and nursing graduate professional programs are much more varied in content and structure. Social Work, journalism, mass communications, clinical chemistry, library science, clinical psychology, resource management, music, dance, and urban planning may be found with academic or professional emphasis or both in various universities.

I take professional training to imply training for a career as a performer in the profession as contrasted to a basic researcher or a university educator. However, even research training can be highly profession oriented and many students are trained to conduct research which analyzes the current forces impacting an economic market, a legal case or a resource plan. The future may see recognition of some areas of research as more professional than academic.

What pressures influence the administrative decisions concerning professional programs? License, accreditation, and peer pressure may demand that a "school" exist. Law, medicine, veterinary medicine and dentistry have no difficulty deciding that their needs are not well met within a graduate school.

The goals for administration should include high quality in the educated product and effective use of resources with appropriate sharing of both academic talent and administrative services. Healthy competition for good minds and for recognition because of excellence is to be encouraged while empire building must be kept in check. The administrative system should cause decisions to be made by competent persons. Academic decisions belong to the faculty but must be made in ways to foster the shared goals of the university as a whole. There must be higher authority which is able to say no when needed, at least on budgetary matters.

The administrative structure should prevent excessive duplication of administrative services and academic offerings. At the same time, the administration can insist that the basic academic disciplines provide service courses which are attractive and useful.

Faculty and administrators of good will can find workable solutions to all these administrative needs whether structured under a graduate school or in separate professional schools. For a closer look at the realities of professional programs in action, I would like to introduce Dean Gail Fullerton at this time.

The Administration of Professional Master's Degree Programs

Gail P. Fullerton

In 1972, the Committee on Graduate Studies at Stanford University published *The Study of Graduate Education at Stanford*, which was primarily concerned with the Ph.D. The Committee expressed concern about the declining job market for Ph.D.'s, and incidentally expressed surprise at finding the master's degree alive and well. The master's degree is indeed alive and well in San Jose. There is a decline in job opportunities for our graduates who hold the academic M.A. or M.S. degree—most of whom used to go into teaching—but a strong demand exists for those who hold professional master's degrees, such as the MBA, MPA, MPH, MSW, and MUP. Enrollment patterns in master's degree programs mirror job opportunities, and most professional master's degree programs are impacted and turning away applicants.

It is a common observation that students of the mid-seventies differ markedly from students of the mid-sixties, that today's students resemble those of the mid-fifties in their concern with career opportunities. The expectation and goals of our students reflect socio-economic realities: if the students of the sixties were the children of affluence, alienation, and dissent, the students of the seventies are children of inflation, recession, and anxiety. There is a tendency for those academicians, including myself, who are committed to the value of a liberal education to deplore the shift away from academic disciplines. Yet as Alfred North Whitehead once remarked,

"Pedants sneer at an education that is useful. But if it is not useful, what is it?"

The administration of professional master's degree programs is in many ways identical to that of academic master's degree programs, but there are some significant differences. There are differences in the purpose and scope of the curriculum that lead to differences in the manner of admitting and evaluating students, and in recruiting and evaluating faculty. There are differences in accreditation and in resource allocation. As a graduate dean involved in the administration of both academic and professional master's degree programs, I would like to point out some of these differences and indicate some of the problems associated with the administration of professional master's degree programs.

Curriculum of the Professional Master's Degree Program

Whereas the M.A. or M.S. degree is often viewed as preparation for the Ph.D. program and signifies an intermediate level of mastery of a discipline, the professional master's degree is entry-level preparation for a particular profession, a profession usually specified in the degree nomenclature. (Thus the Master of Urban Planning, the Master of Social Work, the Master of Business Administration.) The basic content of the professional master's degree program is often prescribed by the requirements of the professional accrediting association—of which I will say more later. The fact that the professional master's degree program is oriented toward entry-level professional competence gives focus to the curriculum. The student is expected to acquire and demonstrate competency in the application of principles in a variety of circumstances, and to demonstrate the acquisition of specific skills. The statement of behavioral objectives, which is often philosophically offensive to the academician, seems to come readily to the curriculum committee of a professional school.

Typically, the applied theory courses are scheduled in tandem with required internship experience, so that the student can take his newly acquired knowledge into the field and bring his field experience back into the seminar. The internship raises questions not associated with traditional academic course work. How is the unit value of an internship to be determined? If an internship requirement extends beyond one academic term, can it be assured that the second internship is a different experience, and not merely a repeat of the first semester? There is the question of whether the intern should be paid, or whether he will have a more legitimate educational experience if he receives only academic credit. The intern who is receiving pay for what he does may quickly become just an employee with a highly circumscribed job, rather than an intern with an opportunity to participate in a variety of professional contexts. Yet if the intern is not paid, he is at best a tolerated outsider in a professional setting, and at worst may be viewed as a form of cheap labor, resented by recently unionized professional employees.

Depending on the field, and on the amount of prior experience that specific agencies have had with interns, the administration of internship

programs may be beset with problems never encountered in traditional academic master's degree programs, where students may be employed as GA's or TA's, but where the teaching and research apprenticeships are contained within the university structure. In spite of the problems associated with internships in the professional graduate curriculum, it is the internship that gives the student the direct, "hands-on" experience with his chosen profession, and that gives him the important first-job experience. It is the internship that keeps the curriculum from becoming too far removed from the realities of a profession. And finally, internships in professional master's degree programs are an important interface between the university and other institutions and agencies in the community.

Structuring the professional graduate curriculum so that seminars and internships are chained together may be sound pedagogical practice, but it may effectively determine whether or not part-time students can be admitted to the program. The curriculum in some professional degree programs may be designed to accommodate part-time students. For example, at San Jose State University, over 60% of those whom completed the MBA program last year did so with course work taken entirely in the late afternoon and evening, and most of these students were fully employed. The master's degree programs in engineering on our campus can also be completed entirely in the later afternoon and evening, and on a part-time basis. It is difficult, however, for clinical programs to be structured to include part-time and evening students.

Some professional schools assume that the student who wants to enter their program must be prepared to make a financial sacrifice: must be willing to seek family help, or student loans, or simply live on less, in order to complete his education. Because professional graduate programs tend to be impacted, the coordinators of these programs are able to say to students, in effect, "Take the program full-time, or give your place to someone who will."

Unfortunately, this means that certain groups of students tend disproportionately to be excluded from the program, and thus from the profession. The exclusion of minority students who cannot afford to attend full-time is an obvious case in point, as is the exclusion of women with family responsibilities who may be unable to devote the hours per week that full-time student status requires. But there is also the plight of the older male student, of whatever racial or ethnic ancestry, who finds himself caught in a dead-end job, who has talent and ambition and would like to upgrade himself in his present field, or make a career change, but finds that he must work full-time in order to make the mortgage payments and feed his family. The problems of exclusion of part-time students are serious, particularly in internship oriented professional programs.

Admission of Students to Professional Master's Degree Programs

The discussion of the plight of part-time students, especially women, minority, and older students with family responsibilities, leads into the problems of admission to professional master's degree programs. Affir-

mative action recruitment is a concern of most of us here. Professional master's degree programs are the major means of entry to many professions, and increasing the proportion of minority and female professionals is a major social concern.

Those of us who are involved in the admission of student to such programs are the gatekeepers for the professions. I am not going to comment on *DeFunis*, except to observe that while the Court did not resolve the issue of preferential admissions, the case has led all of us to examine closely the criteria for admission to impacted professional graduate degree programs.

The GRE aptitude test, the LSAT, and the ATGSB, have been useful screening devices over the years. Most professional programs draw students from a variety of undergraduate disciplines, and an aptitude test for the profession seems a reasonable means of screening applicants. Yet it is precisely in the professional fields that there is the greatest pressure to open the door to those who have historically not performed well on tests standardized on a population of white males. Few of use would be willing to let test scores be the sole criterion for admission to a professional graduate degree program. Yet we do need some means of determining the aptitude of students for a professional program. When places in a program are limited, some applicants must be excluded; we have an obligation to screen out those persons who are ill-suited to function in a particular professional capacity.

A baccalaureate major in the same academic discipline is an obvious admission criterion for the M.A. or M.S. degree program. The professional master's degree program, however, does not usually require undergraduate preparation in the same field. Graduate schools of business often prefer an applicant with baccalaureate degree in economics or some other social science; law schools have traditionally preferred students with baccalaureate degrees in political science or sociology. The pattern is beginning to change, with more students seeking baccalaureate preparation in vocational areas, but the point is that a baccalaureate major in the same field is not a useful criterion for admission to a professional graduate program, although specific competencies (such as a given level of mathematical skill) may be required.

Some professional programs require prior experience in the field. For example, at San Jose State University we have a master's program in nursing which prepares R.N.'s to become supervisors, and a certain amount of nursing experience is a requirement for entry into the program. Prior professional experience is not a common requirement for entry into professional graduate programs, however.

Most professional graduate programs require letters of recommendation; such letters are a traditional basis for screening applicants. Yet the letter that is other than laudatory is a rare exception—and the Buckley Amendment may mean that we will no longer be able to request confidential letters. This is a point we could debate philosophically: the right of the individual to see all files accumulated about himself, particularly derogatory material that might impair his future, *versus* the right of the university to request information about an applicant with the understanding that it will be

held in confidence. But whatever the philosophical issues, or the interpretation of the new law, the probability is that what usefulness the letter of recommendation had will soon be gone.

Personality characteristics that may never show up on formal records, and are unlikely to be mentioned in letters of recommendation, may become quickly apparent in an interview. Certain personal traits may be essential to the ultimate ability of the individual to function as a professional, and the interview by a faculty committee may be an important element in admission. However, the interview has the disadvantage of limiting applicants to those who can be present on campus, and it imposes a heavy burden on faculty members in a program with several hundred applicants.

Finally, there is the grade-point average. A minimum GPA for admission to a graduate program is a time-honored requirement, but there are problems even here. What of the applicant who performed well except for the disastrous semester the year he was drafted? Or the semester she got pregnant? And what of the student who took most or all of his undergraduate work on a credit/no credit basis and has no grade-point average?

Problems of admission are less severe for academic master's degree programs, where an undergraduate major in the same discipline, an acceptable grade-point average in the major, and perhaps a GRE score, are sufficient to screen applicants, particularly given the present probability that all qualified applicants can be accommodated in the program. Admission to the professional master's degree program presents more difficult problems, because these programs tend to be impacted, and because the criteria for admission are more flexible.

Evaluation of Students in Professional Master's Degree Programs

The evaluation of students in professional master's degree programs also presents some unique problems. It may be no more difficult to grade classroom performance in accounting than, say, in economics. But many professional master's degree programs are more concerned with the level of competency achieved by the student than by his standing in the class. It may be less important to identify the top ten percent of the class than to make certain that no one who has failed to master skills at a given level be allowed to proceed on to the next. Unless the student performs at a given level of competence, he may be required to repeat that segment of the program until he does, and if he cannot master a given level of competence within a reasonable time, he is dropped from the program. This becomes a continual screening of the inept, but the effect often appears to be an abnormally high grading curve, precisely because the grading was never done on a curve. The philosophy of grading based on the mastery of a particular set of skills is distinct from the philosophy of normative grading. The problem is that within the same university, the two types of grading may coexist, and the academic side of the house (accustomed to normative grading) may be critical of the faculty in professional schools who are employing competency grading.

Evaluation of Faculty for Tenure and Promotion in Professional Programs

If the evaluation of students in a professional master's degree program presents some unique problems, the evaluation of faculty also presents problems. The standards by which academic faculty are judged for tenure and promotion may be a poor fit for faculty in the professional schools, where consulting contracts may be a better measure of the competence and stature of the professor than publication. As research keeps the professor in the sciences abreast of new developments in his discipline, so a certain involvement in his profession keeps the faculty member in a professional program abreast of the state of the art in his field. Medical schools have long recognized the importance of having a professor of surgery who is also a practicing surgeon.

Yet often the faculty member in a professional school such as business or engineering finds the university administration critical of the amount of time he devotes to consulting and related professional practice—for which he is usually well paid. There are ethical questions: at what point does the time involved in professional practice become excessive? It is time which is not being devoted to students in the classroom, in advisement, or supervision of internships, and unless the professor is willing to accept a part-time appointment to the faculty, he is paid for full-time service to the university.

There are inevitable jealousies on the part of professors in the academic fields who are not able to turn to lucrative private practice on a part-time basis, and resentment on the part of the professional faculty who feel that the rules of tenure and promotion are rigged against them. These are not easy matters to resolve. The situation is even more difficult when the professional master's degree program and the academic master's degree program coexist in the same department—as, for example, a professional master's degree in clinical psychology and an academic master's degree in experimental psychology.

Accreditation of Professional Master's Degree Programs

The quality of the faculty, the standards for students, the content of the curriculum, the facilities and equipment, the internship arrangements, are all scrutinized in detail by on-site visitation team for the professional accrediting association. The professional accreditation of a program or school is in addition to the regional accreditation of the university. All departments and programs in the university, academic and professional, are reviewed periodically as part of the accreditation of the university by the regional association of colleges and universities. This is the only accreditation review for academic departments. The professional programs and schools, however, are also accredited by the appropriate professional association. As of January, 1972, there were thirty seven such associations approved by the Board of Commissioners of the National Commission on Accrediting. Most professional accrediting associations will only review programs in regionally accredited colleges and universities, so both levels of accreditation are required for a professional program.

Professional accreditation protects the public against incompetent practitioners by requiring that programs which train professionals meet certain standards. Accrediting also protects the students from investing time and tuition in a program which will not prepare them for their chosen profession. Professional accreditation complements licensure or certification. Programs are accredited, persons are licensed. Accreditation is an activity of the professional association, whereas licensure is a governmental activity usually supervised by state licensing boards. State boards often limit eligibility for a license to practice to graduates of professionally accredited programs; thus unless a professional master's degree program is accredited, the graduates of the program may be barred from entry into the profession.

It may sometimes appear to the university administration that the costs of a professional master's degree program are unnecessarily high because of the rich student-faculty ratios or other costly aspects of a program which the professional accreditation requires. But the accreditation of a professional is so important that the recommendations of an on-site accreditation team have a strong impact on the allocation of resources to the program.

The Specialist and the Generalist

Many universities are experiencing declining enrollments, with resources declining proportionately. Within the university, there are internal shifts of student enrollment from the liberal arts and sciences to preprofessional and vocational programs at the undergraduate level, and to professional programs at the graduate level. With resources dwindling, such shifts create sensitive issues. Should resources (including faculty positions) follow student preference for professional curricula? If the liberal arts and sciences are perceived as the heart of the university, how far can the transfer of resources from these programs to the professional areas be justified? (As one faculty member, chairman of a powerful committee, put it: "We are not here to break anyone's rice bowl.")

One of the important functions of a dean who works with academic program and resource planning in the central administration of a university, as a graduate dean usually does, is to prevent parochial interests from determining resource allocation and curricular content. The professional program can benefit by admitting students who have the breadth and flexibility that is developed in a liberal arts and sciences undergraduate preparation. This is not merely the bias of one who was educated in the liberal arts tradition. A recent study by a major financial journal indicated that the business executives who rose to high corporate rank tended to be those who had a baccalaureate degree in one of the liberal arts or sciences, followed by the MBA, whereas those who had a baccalaureate degree in business followed by the MBA tended more often to remain in middle-management, dead-end jobs.

The professional is a specialist, who must to some degree be a generalist. Highly specialized technical knowledge tends to become obsolete in a sur-

prisingly short time. One who can apply a formula appropriate to a specific situation can function well enough, so long as the situation remains stable; unless he can also derive new formulas, he cannot cope with change.

Predicting the future is a fascinating game, but the only thing certain is that we are moving into a new century, and a new millennium. In the 1960's, when we looked into the future we saw space travelers in computer-controlled space craft, docking at luxurious space ports. Now, when we look ahead we see shortages of fuel, shortages of food, entire peoples dying of starvation, and ruined continents. Perhaps we have a hard time seeing ahead because our eyes are just getting used to the dark.

As persons responsible for the graduate education of professionals, we might remember that the height of a professional's career normally comes in his—or her—mid-forties. Those graduate students in their early twenties, who are the largest group in our professional master's degree programs today, will be at the height of their careers in the year 2001. Will we have prepared them to survive?

The Perceived Advantages and Disadvantages of Administering Professional Graduate Degree Programs Through a Graduate College or a Graduate Professional School

Elmer R. Gooding

I appreciate the opportunity to be with you today to discuss the administration of professional graduate degree programs. For nearly five years, I have had the opportunity and the pleasure of directing graduate programs in economics and business administration at Arizona State University. During those years, we have developed a close working relationship with the Graduate College through which all of our programs are offered. We do not have a separate graduate school of business administration.

The College of Business Administration at Arizona State University is relatively young by national standards. Approval was received from the Board of Regents in November, 1954, to establish a college of business administration. Since its beginning, the College of Business Administration has experienced tremendous growth. Enrollment has grown from the time that the College was established from 933 students to in excess of 6,000 students in 1974, while faculty has increased from 13 to approximately 140 at this time. The College consists of seven separate academic departments which are accounting, administrative services, economics, finance, management, marketing, and quantitative systems. In addition to the seven departments, the college contains a Center for Executive Development which served over 6,000 persons for non-credit courses last year, a Bureau of Business and Economic Research which coordinates the organized and individual research activities in the College, and a Center for Health Services

Administration which was just established this year to offer credit and non-credit courses in the health services administration area.

Over the last decade, graduate enrollment in the College of Business Administration has increased from 218 graduate students in the fall of 1964 to 1,288 in the fall of 1974. A decade ago we had three programs—a master of science in economics, a master of science in accounting, and a MBA program. The Doctor of Business Administration program at Arizona State University began in 1965. Since that time, 52 candidates have received their doctorate in business administration from Arizona State University and are involved in teaching and other professional positions throughout the United States. The number of graduate programs in the College of Business Administration increased during the past year with the addition of two degree programs: A Ph.D. in economics and a master of health services administration. This brings the total offerings to four master-level programs and two doctoral-level programs. The programs are centrally administered through the dean's office in the College of Business Administration by the director of graduate programs in economics and business administration. All degrees are granted through the Graduate College of the University.

Before turning to my specific topic for today, I must say at the outset that on a personal level, my interactions with Vice President William J. Burke, Dean of the Graduate College at Arizona State University, and his Associate Dean Mathew J. Betz have been most cordial and pleasant. We have, in my opinion, worked very well together in solving the multitude of problems that arise in the administration of graduate programs.

With this background information, I would like now to turn to the topic which I was asked to discuss—that is, the advantages and disadvantages of administering professional graduate programs through a traditional graduate college compared with the advantages and disadvantages of having a separate graduate professional school.

One way to approach this topic is to ask how our present administrative arrangement compares with universities who have had separate graduate schools of business administration. In this context, I will discuss the perceived advantages and disadvantages of having a separate graduate professional school and analyze our present administrative structure. As background for this presentation, I have reviewed the results of a study which was conducted by an ad hoc committee (of which I was an ex officio member) to determine the perceived advantages and disadvantages of having a separate graduate school of business administration. This study, which was conducted approximately three years ago, covered twenty graduate schools of business administration. Information was gathered from these institutions via a questionnaire. The universities of which these schools were a part were:

1. University of California at Berkeley
2. University of Colorado
3. Duquesne University

4. Emory University
5. University of Georgia
6. University of Illinois
7. University of Indiana
8. University of Michigan
9. University of Minnesota
10. New York University
11. Northwestern University
12. University of North Carolina
13. University of Oregon
14. Purdue University
15. University of Santa Clara
16. University of Southern California
17. University of Texas
18. Washington University
19. University of Washington
20. University of Wisconsin

The study consisted of a sampling of institutions who were deemed to be similar in some respects to Arizona State University although in terms of enrollment, it was the general impression of the committee that the Arizona State University College of Business Administration was larger than most of the business schools in the twenty universities that responded to the questionnaire.

My comments will be divided into three major parts: academic prestige and visibility, graduate program development, and graduate program administration.

Academic Prestige and Visibility

One of the frequently-mentioned perceived advantages was the increased academic prestige and visibility associated with having a separate graduate professional school. Many respondents believed that this generally was beneficial in attracting better students, and it was concluded by some of the respondents that having a separate graduate school of business administration meant more to the students than it did to the faculty. However, it was concluded that the additional prestige of having a graduate professional school was perceived to be beneficial in attracting faculty (even though, in most instances, the faculty members were not distinctly separated into undergraduate and graduate faculties). In most cases, the faculties taught in both undergraduate and graduate programs. It was also believed by some respondents that having a separate graduate school may be beneficial in attracting experienced administrators to direct the graduate programs.

Some respondents indicated that in addition to the prestige associated with having a separate graduate school, it was essential that the graduate schools be established to increase visibility and improve their identity in

order that these institutions could compete with other excellent schools who already had separate graduate schools of business administration. The improved visibility and identity were generally believed to be beneficial in the placement of both master's and doctoral-level students.

Along with this visibility, in many instances, came increased financial support from the business community. Some institutions that responded to the questionnaire indicated that the federal government and certain foundations seem to make a point of whether an institution applying for a grant has or does not have a graduate school of business administration. Those who had separate graduate professional schools were generally believed to be in a better position to receive additional grants and funding through these sources.

One potential disadvantage of establishing a separate graduate school of business administration is that the undergraduate program may lose visibility; however, the administrators of several institutions that had established separate graduate schools of business administration believed that the undergraduate and graduate programs both gained in importance since each had a separate identity and greater visibility. This was generally achieved by having separate names for the graduate and undergraduate schools.

In summary, academic prestige and visibility associated with the establishment of separate graduate professional schools were perceived to be beneficial in attracting students, faculty and program administrators as well as assisting in the placement of students and the obtaining of financial support.

Program Development

An advantage of having a separate graduate professional school is increased flexibility in developing new academic programs and changing existing academic programs. This administrative arrangement streamlines the procedures for initiating and realizing change.

A disadvantage of this arrangement, however, is that the professional school may not plan as well independently as it would with graduate college guidance. The broad perspective of graduate college representatives from other disciplines may provide insight for program planning. External constructive criticism is often beneficial as new programs are being established.

Administration

In a few instances, respondents to the questionnaire noted the advantage of exercising greater autonomy in the administration of their graduate professional programs. This particularly pertained to admission decisions. However, in most cases, it was readily admitted that the admission standards for the professional schools were already somewhat higher than the

general university requirements which were enforced by the university graduate colleges.

At Arizona State University, it appears that the establishment of a graduate school of business administration would eliminate some amount of administrative duplication. Under the existing administrative framework, all applications are sent to the Graduate College of the University, transcripts are accumulated and the completed files are sent to the College of Business Administration. In the College of Business Administration, a graduate committee reviews all applications for admission. These decisions are reviewed by the assistant dean who directs the graduate programs in the College and, if approved, are then submitted to the Graduate College. The Graduate College, in turn, reviews these files and sends out the final letter indicating the admission decision. Those who are denied admission are referred back to the College of Business Administration for any answers concerning the decision on the application for admission. Even though the Graduate College occasionally questions the decision reached by the Business Administration Graduate Committee, for all practical purposes, the admission decisions are made at the College level. Occasionally, there are some advantages to the multiple review process. Since the College of Business Administration already has centralized graduate program administration, some of the advantages of uniformity in admission decisions are realized before recommendations are made to the Graduate College.

One advantage of the existing arrangement at ASU is that a large portion of the clerical function is performed by a well-staffed graduate admissions office. For example, the College of Business Administration does not have to become involved in determining the visa status for foreign students. We do not have to send notifications to students whose files are incomplete; however, we usually contact each applicant several times during the admission process.

Some respondents to the questionnaire noted that administrative efficiency increased in handling admissions since the graduate program administration was contained in only one organizational unit. This could reduce the time lags that are inherent in passing the admission decisions through a separate administrative unit. Although some may argue that there are economies in handling admissions through a central graduate college for the university, many who responded to the questionnaire had programs that were about one-half as large as the programs that exist in business administration at Arizona State University. These respondents indicated that their institutions were already large enough to take advantage of the economies of scale in handling admission. At ASU, it was estimated that approximately 25 to 30 percent of the time of the personnel in the graduate admissions office is spent in processing applications for admission to graduate programs in business. If these function were to be taken over by a graduate school of business administration, this would entail a transfer of resources and at least some short-term administrative disruptions in the process of making that transfer.

One of the other disadvantages of having a separate undergraduate and graduate school is that there may be some possible polarization of the faculty. In some cases where separate graduate and undergraduate faculties have been established, the faculty members have tended to associate themselves with only one program or the other. If having a separate graduate professional school leads to establishment of a separate faculty, there appear to be some diseconomies in splitting the faculty into two separate entities. There would, of course, be costs of maintaining separate faculties if separate faculties were to be established. In most institutions that were surveyed, however, the faculties were not separate, but rather were essentially all part of a greater college faculty. In some instances, the graduate school was merely on paper rather than being in fact a separate "school" of business administration. The greatest areas of disadvantage seemed to be in the cases in which there was an attempt to separate the faculties completely between graduate and undergraduate programs. This caused some duplication since those in one faculty were either unwilling or not allowed to teach in the other program. This, of course, would also entail separate faculty meetings and other separation of functions with undoubtedly some duplication of effort.

In summary, it appears that one could find both advantages and disadvantages in continuing the system at ASU and one could find advantages and disadvantages with the separate graduate professional school concept. On balance, most schools that had a separate graduate school, even if it were only on paper, were quite satisfied with the additional visibility, prestige, and identity which came with having a separate graduate professional school. These factors appeared to be beneficial in recruiting faculty and students, placing students, and raising funds. Some schools found greater autonomy desirable and some believed that administrative duplication was reduced by having a separate professional graduate school.

The advantages of having a centralized graduate college are admission consistency, provision of clerical assistance in processing applications for admission, assistance with program development and the provision of an external perspective.

As indicated at the beginning of this presentation, the relationship between the Graduate College at ASU and the College of Business Administration has been most cordial. In particular, I have enjoyed my association with the dean and associate deans of the Graduate College. Among the most important factors in a successful relationship are the personalities and professional viewpoints of the persons involved. If a separate graduate school of business administration were to be established at Arizona State University, I would not view this as an attempt to escape from the Graduate College of the University or as an attempt to necessarily gain increased autonomy; rather, I would view it as an attempt to raise the visibility of what is already one of the largest graduate programs in business administration in the United States.

Robert M. Bock

Now it is time for me to make some remarks from the viewpoint of the complex university. My colleague panel members have given you excellent insight into the problems and solutions of professional program administration. The University of Wisconsin is a long time graduate institution, with graduate programs for 75 of its 125 years. We have seen a very substantial increase in interest and emphasis toward professional graduate training. I believe it will continue to grow for some years to come. Resource management (water, wastes, parks, land and air), social and health services are new growth areas and almost every graduate professional area has grown more rapidly in the 1970's than graduate education as a whole.

Several features of the graduate school setting have kept professional programs willing to stay in that administrative structure. More flexibility in offerings, broader access to students, opportunity for faculty research and a teaching load structured on the expectation for faculty research or service have been attractive. Recognition by colleagues as equals willing to compete in the same arena has been an attractive challenge. The graduate school has been a most convenient "nay sayer" on admissions in cases where the school may have not withstood pressure from their own profession.

The needs of the older student, the academic credentials of students returning after career experience, the needs of part-time students for non-conventional schedules of courses and the evaluation of credit equivalence of internships are all problem issues which must be faced but can be solved.

In the current tight budget situation, many professional programs (medicine is an obvious exception) may be helping carry higher cost programs by paying the same rate as university wide tuition.

The university benefits by mixing our future professional leaders with our future teachers. The professional program students gain from easy access to leading philosophers, scientists and scholars. But these students insist that a real and current world be brought to the university.

Graduate Schools in the Urban Environment

Herwig G. Zauchenberger

The increasing urbanization of American life has, in recent years, focused our attention and concern on the city and its social problems. It has also led to a reconsideration of the role the urban university ought to play in solving some of the problems and a re-examination of the university's educational mission, particularly in urban settings. Whether spurred by public pressures of having espoused an urban-oriented mission voluntarily, urban universities are now going through the process of evaluating their roles in relation to the city in terms of the training and expertise they can provide for their urban clientele, and vice-versa. Several recent publications

address themselves to this subject and concern. The Carnegie Commission's report, *The Campus and the City: Maximizing Assets and Reducing Liabilities* (1972), and the report of the Commission on Non-traditional Study, headed by Samuel B. Gould, are among the more comprehensive attempts to identify major areas of concern and to propose several solutions to the growing needs and demands of the urban community.

Within this broad scope of problems, the responsibility of urban graduate schools in providing appropriate educational and research opportunities in conjunction with consulting and extension services for its potential urban clientele represents a major dimension of larger questions relating to effective and meaningful interaction between the university and the urban community in which it is located.

The Task Force on the Problems of Urban Graduate Schools* has set as its goal—via the examination of the challenges, problems, practices and innovations of urban graduate schools as a distinct subset of graduate institutions in the United States—the subsequent development of recommendations, based on the findings of this investigation, which may be especially applicable and useful to urban graduate schools. The forthcoming report should have the additional benefit of making other graduate institutions aware of the particular challenges faced by city-based graduate schools.

It is recognized that both the term "urban university" and a "university in an urban setting" cannot be defined with precision. For the purpose of this presentation it may be sufficient to identify an urban university, in the truest sense, as one characterized by an integral relationship with its metropolitan location, reaching out to make effective use of the educational possibilities of the region and by providing leadership and assistance in helping to define and seek solutions to the needs and problems of the community which supports it.

The formulation and identification of the mission of an urban university may be relatively simple. Its implementation, however, is fraught with problems and challenges arising from the complexity of the city and the equally complex nature of the academy.

In these brief introductory remarks I shall attempt to outline some of the demands, conflicts, and pressures which characterize the relationship between the university and its urban community. In particular, it will be necessary to show in what way the urban setting differs from other environments in which graduate schools are located and thereby necessitates alternate approaches to graduate education and training, teaching and research, degree programming and public service.

Let me begin with a brief summary of several of the demands placed on the urban university by its external urban constituencies.

There is pressure and demand for:

*The Task Force on the Problems of Urban Graduate Schools is composed of the following members: Elton S. Carter, University of Nebraska-Omaha, Hans J. Hillerbrand, City University of New York, Glen E. Peterson, Memphis State University, John P. Rier, Jr., Howard University, Herwig G. Zaichenberger, University of Missouri, Kansas City.

1. Identification of, and overt institutional commitment to, an urban thrust or mission; the creation of an urban advocacy position or structure at the university; and the establishment of a university-city council to stimulate and effect interaction.
2. Responsiveness to public problems, community needs and services.
3. Involvement in technical assistance and problem solving for public agencies. Underlying this demand are several assumptions and beliefs:
 - (a) The university is a valuable resource supported by public funds and therefore has an obligation to be of assistance to the city.
 - (b) This assistance is to be a direct service to the city or community, and is not intended to serve primarily as a vehicle for faculty research.
 - (c) There is the vision of the land-grant university and its accomplishments for rural America as a model for the urban universities to help solve the problems of the city.
 - (d) Faculty effectively involved in urban work, it is argued, should be equally rewarded by the academy.
4. Provision of educational training opportunities appropriate to the real, practical needs of the city/community. Specific pressures in this category relate to those for:
 - (a) Expansion of curricular, program, and degree offerings; these to include interdisciplinary approaches and "professionally-oriented" training and skills which can be applied to "real life" situations and can be used effectively in the solution of urban problems.
 - (b) Inclusion of community resources and expertise in the training process (field-work, internships, advising, etc.).
 - (c) Provision of instruction in several locations, not just on the main campus; that is, service to all parts of the city and its environs through residence centers or the like with the best faculty.
 - (d) Synchronization of educational training within the city, from the community/junior college up to graduate studies. There is pressure to engage in the "articulation" process.
5. Renouncement of what is perceived to be the exclusivity of the university. These demands include:
 - (a) Consideration of the special needs of the multi-faceted and career-oriented urban student clientele seeking advanced training or continuing education: the large number of part-time students of all ages engaged in life-long education; the working, commuting student; the substantial minority component in population centers; women (working and young mothers), pensioners and senior citizens, the first-generation college students, students at military bases, graduates of local high schools and college, etc.
 - (b) Facilitation of attendance, access, and completion of degree requirements and removal of unreasonable or unnecessary

barriers: demands for open admission, non-traditional delivery systems, appropriate class scheduling, credit for work experience and competence gained outside the classroom, liberal transfer credit policies, no-nonsense degree requirements, etc.

These demands and pressures, which essentially do not affect, and are of little concern to, established residential non-urban universities, are being brought to bear on the urban university by environmental, external forces and factors. Their imposition on an urban graduate school or university, in turn, heightens the tensions and conflicts which prevail already, and normally, within the academy.

Espousal of an urban mission by a city based university has been decreed by many a president or chancellor but grass roots support by the faculty for intensive urban involvement along the lines just enumerated has been far from enthusiastic. It is probably fair to say that to the majority of the faculty, at least of the graduate faculty, many of the external demands produced by the urban environment are in conflict with their own beliefs of the purposes of the university and their roles and responsibilities as faculty members as they perceive them.

They, in turn, exert their own internal pressures on the university administration for the maintenance of long-cherished models and privileges. These include:

1. Freedom to pursue knowledge without responsibility for its application versus the social demand that the university assist the real world. Derived from this notion is the high value placed by the graduate faculty on so-called pure and basic research as such and as the major criterion for measuring faculty quality; the relative lack of a true interest in subdoctoral degrees; and the concern over "professionalization" of graduate degrees and vocational trends in graduate education.
2. The notion of the community of scholars which goes beyond the individual university versus a commitment and obligation to become involved in local problems.
3. "Discipline" orientation or differentiation of knowledge into schools and departments in relation to the need to integrate techniques and disciplines in applying that knowledge to social problems based on the belief that in-depth study can be carried out only in areas of specialization within established or newly created, delimited fields of study. Skepticism about the academic integrity and viability of inter- or multi-disciplinary studies is an expected corollary.
4. The view that knowledge is best pursued and imparted within "academic walls" and through full-time study. Out of this conviction grew the resident requirement; the justification for massive financial aid; and the skepticism toward part-time study, off-campus and evening instruction, and the awarding of credit for experience and training outside the classroom.
5. The belief in the concept of excellence through selectivity and limited access versus the growing notion of a university education for

everybody, expressed most vividly in the call for open enrollment even on the graduate level. Implied here is a disinterest in poorly prepared students and a lack of skill in dealing with them.

This list is not complete, but it should suffice to demonstrate the conflicting demands, expectations, and beliefs of the external and internal constituencies which press on urban universities and graduate schools and are apt to severely tax and challenge the judgment, ingenuity and effectiveness of their leadership.

There are, however, still other factors which add to the complexity of the urban educational scene. These are what I would call "the facts of life" of an urban university and graduate school. They constitute the set of realities which urban graduate schools must take into account in their attempts to reconcile the realities, needs, and assets of the urban/metropolitan environment with long standing patterns and indices of quality graduate education and research.

Residential schools normally are concentrated in one area. Urban universities, probably in the majority of cases, do not constitute one cluster of buildings in close proximity to one another. Depending on the size of the institution and its age, they range from campuses in the usual sense to multi-cluster plants to separate buildings interspersed and spread over a large urban area. Frequently graduate courses and, at times, entire graduate programs are taught by necessity, choice or design at residence centers or non-university buildings in various locations throughout the city. Dormitories and student and faculty facilities frequently are sparse being geared to the commuting student and faculty member. This situation severely limits interaction with peers outside the classroom or the faculty lounge (if it exists) and affects negatively the availability of faculty for much needed student advising and counselling.

Living in every part of the city, faculty, as already pointed out, have considerably fewer opportunities for contact with their peers and their students as well, compared to faculty associated with a residential school. This residence pattern, different teaching locations within the city, and the related time factor influence significantly the faculty's proportionate engagement in the triad of professional obligations: teaching, research and public service. The teaching function and, in part, public service, is apt to assume major importance, often at the expense of research and other scholarly and creative activities. These circumstances conflict with the graduate faculty member's recognized need to be engaged in research leading to publications as part of his professional obligation.

The majority of students of urban graduate schools reside in the metropolitan area or its vicinity. Many are married, hold a job, and are in their late twenties and thirties and older. There is usually a substantial number of potential university students in the city who need special consideration and assistance. A large portion of the urban graduate students can afford to pursue degree programs only on a part-time basis, and commute to school. They are strongly career-oriented and motivated according-

ly. Others, young and old, turn to the university as a source for continuing education and enrichment and expect to be equally accommodated. The urban graduate school cannot remain immune to some of the special needs of this type of student body and is thereby forced, beneficially, we believe, to reassess traditional concepts and long-standing beliefs about graduate education which have been developed and defended by a graduate school community not faced by the special requirements of the urban environment.

The need for such reassessment is underscored by the explosive increase of competitive graduate offerings through extension divisions of institutions in the city or the region, and particularly of intruding institutions whose homebase may be anywhere in the country. Attracted by the potential student market of population centers, the "intruders" offer easy access to degree programs, especially on the master's level, allowing generous degree credit for professional experience and non-classroom work. More often than not, the academic standards of these programs are questionable, but the fact remains that these institutions are successfully competing for graduate students who are attracted to these programs by their flexibility in degree requirements and scheduling of instruction, which may well benefit traditional program designs.

Thus, urban graduate schools—by their nature, the clientele they serve and by their recognized obligation toward the community—cannot fit the mold and approach to graduate education of residential institutions. Environmental factors, among other things, preclude overly restrictive access barriers; stress the need for recognition of part-time study as a viable route toward attainment of any graduate degree; tend to support the value of interdisciplinary programs on sub-doctoral and doctoral levels; justify considered evaluation of all research efforts, whether basic or applied; and dictate both a sensitivity to the societal and professional needs of the urban community and a responsibility to devise appropriate educational avenues to meet these needs. It is mandatory, however, that quality be maintained in all instances.

Urban graduate schools, I believe, have an opportunity by the challenges they are facing to demonstrate that quality can be achieved by various routes and that deviations from traditional patterns and indices of quality graduate education and research should by no means be equated with a lowering of standards or inadequate education of the graduate student. Urban graduate schools have long ago put into practice much of what is presented as innovative and "needed change" in *Scholarship for Society*. It can be claimed that the empirical evidence for the validity of many of the recommendations and their underlying assumptions is currently being gathered not so much at residential universities as at urban graduate schools.

Yet, new approaches developed by urban graduate schools are often deprived recognition as viable alternatives because these young institutions cannot muster the same degree of credibility for their accomplishments as their older and more established sister institutions. We are hopeful that fruitful alliances can be established in the future in an attempt to combine

efforts and ideas in the further improvement of the delivery of graduate programs in the urban setting. Much experimentation and research still has to be undertaken. What we want to do today is pause and record the progress made, examine further problematic issues, and look into the future. This is the essential purpose of the workshop this morning.

Second Plenary Session

Thursday, December 5, 1974, 10:45 a.m.

THE INVOLVEMENT OF GRADUATE SCHOOLS WITH EXTENSION DEGREE AND EXTERNAL DEGREE PROGRAMS

Chairman: Charles T. Lester, *Emory University*
John B. Ervin, *Washington University*
Cyril O. Houle, *University of Chicago*

Charles T. Lester

Welcome to the second plenary session of the Fourteenth Annual Meeting of the Council of Graduate Schools. At this particular session, we will be discussing two topics that are becoming of increasing interest to graduate schools and graduate deans—the involvement of graduate schools with extension degree programs and the involvement of graduate schools with external degree programs. As you know, both of these types of programs are expanding and increasing and there is a great deal of interest and concern about them. We are very fortunate to have two speakers this morning who know a great deal about each of them.

Our first speaker will discuss the involvement of the graduate school with extension degree programs. He is John B. Ervin, Dean of Continuing Education at Washington University in St. Louis. Dean Ervin received a Bachelor's degree from Kent State and a Master's degree and a Doctor of Education degree from Columbia. He has been a teacher and an administrator in public schools and taught in colleges. He has been at Washington University since 1962, and in 1968 became Dean of Continuing Education. He is affiliated with various organizations and has received a variety of honors and distinctions. It is a real pleasure to have an authority discuss the involvement of the graduate school in extension degree programs.

Graduate Schools and Special Degree Programs for Part-Time Students

John B. Ervin

Invitations to speak often become part and parcel of the existence of educational administrators who become visible because of activities in community and professional associations. When those invitations come from

prestigious bodies such as the Council of Graduate Schools in the United States, the apprenticeship served with lesser bodies seems suddenly worthwhile. And when that opportunity includes sharing the podium with one of the most distinguished members of his profession, the cup does indeed run over.

Mr. Spragg called to ask if he could persuade me to participate in this program designed to discuss relationships between graduate schools and extension and external degree programs. It was like Brer Rabbit being thrown into the briar patch, and I must have seemed over-eager in my acceptance. Seriously, I did accept for several reasons which seem important to me:

- a. These are times of great flux in American higher education.
- b. Demands for change are all around us, and the university is being pressured to take a new look at its responsibilities to the larger community.
- c. Some of the old assumptions are being challenged, and the adequacy of our institutional responses becomes critical.
- d. There is an increasing commitment to the concept of lifelong learning and the way that universities respond to particular developments in continuing education/extension/adult-non-traditional areas will determine the character of higher education in the near and distant future.

It is no cliché to state that there is widespread dissatisfaction with higher education in this country. The civil rights movements made its contribution to the continuing development of a legal framework for providing educational opportunity. This spurred a dramatic push for access by those whom Patricia Cross has called "the new learners"—minorities, women, economically disadvantaged, the children of blue-collar workers, those who were not in higher education institutions during the 40's and 50's. Add to this the significant changes in the traditional roles implemented by minorities, women, and young people taking place in the general society and being replicated in the university. There is a new spirit extant and the traditional roles assigned to minorities, women and youth by a "racist," "sexist," "straight" social order are no longer acceptable.

Affirmative action has become an integral part of Federal government relationships with institutional life in the United States, with women and minorities making multi-pronged assaults on organizations, demanding not only access but restitution. All of this, exacerbated by an all-pervading feeling of economic uncertainty, has led to a new preoccupation with the attainment of "marketable skills" expressed most often in a degree which will maximize the possibility of employment, of career advancement, either inside or outside of the academy.

As long ago as 1971, the President of the American College Testing Program wrote, "The demand for change in higher education, so evident in

the decade of the 1960's, has led to a continuing demand for new, non-traditional approaches to higher education in the United States... The 'learning society' requires the continuing reeducation of a high proportion of its citizens as additional knowledge is discovered and new and better ways of doing things become necessary."¹

The report of a 1974 American Council on Education study of financing part-time students included the following summary:

- a. Since 1969 more students have participated in post-secondary education on a part-time basis than on a full-time basis by a substantial margin.
- b. In 1972, for the first time in American history, approximately half of the students (degree credit, non-degree credit and non-credit) in post-secondary institutions of higher education participated on a part-time basis.
- c. The rate of increase in numbers of collegiate part-time students between 1969 and 1972 was three and one-half times as great as for full-time students (35.3 to 10.1 percent).
- d. Enrollments of collegiate part-time students are increasing more rapidly in two-year institutions and in graduate programs than in other segments of the field.

In 1972, 63.1 percent of graduate students attended on a part-time basis.²

A significant part of the response to that increase is the development of special degree programs for part-time students. Our colleague, Cyril Houle, has written, "*As the number of part-time students, both undergraduate and graduate, grew in the early years of the twentieth century, the task of fitting them into internal degree sequences became ever more difficult. The university extension movement offered one solution to this problem.... Various facilitative arrangements helped take instruction to these students: creating convenient instructional centers, often off campus; offering late afternoon, evening, or weekend courses; using correspondence and, later on radio and television instruction; and concentrating courses into short periods of time, particularly during the summer.*"³

That movement has continued with a number of refinements, including one which Houle labels the "adult degree," but for purposes of this discussion, I would like to define "extension degree" programs as

- special degree programs for part-time students, designed for that clientele not regularly admitted to conventional graduate programs
- developed and conducted by extension and/or continuing education divisions of universities
- or by professional schools—or, put another way, by academic units other than the "graduate school" or

that unit which develops the "regular" graduate degrees

- likely to be vocationally oriented, without emphasis on research capability
- content geared to the needs of adult students
- often looking very much like degree programs developed by the graduate school, with a
- delivery system which requires regular contacts with the institution, professors, library etc. Contact may be modified, but state requirements must be met.

For several years, the National University Extension Association (NUEA) has published a directory of U.S. College and University Degrees for Part-Time Students, probably the most comprehensive listing of opportunities available for earning a college degree on a part-time basis.⁴ The NUEA summary for 1973 shows a total of 2,848 degree programs designed especially for part-time students in 1,277 institutions. There were 296 master's degree programs and 6 doctoral programs (Doctor of Education—3, doctor of Philosophy—1, Doctor of Ministry—1, Doctor of Science of Theology—1). In addition, there were 55 juris doctor (law degree) programs available to part-time students.

Analysis of the master's programs reveals the following:

53 Master of Arts degrees

More than half of these were in education—

10 Master of Arts in Education

10 Master of Arts in Teaching

5 Master of Arts in English and History

Others were in special studies, forensic studies, administration, religion and social science.

64 Master of Science degrees

Again a heavy concentration in education (11), with engineering a close second.

Others included business, special studies, forensic studies, administration, film education, accounting.

50 Master of Business Administration

25 Master of Education

12 Master of Engineering

10 Master of Public Administration

5 Master of Urban Affairs

These data indicate an increasing preoccupation with credential seeking in education, business, and engineering areas, coinciding with the

character of University College at Washington University—concentrations in business and engineering-related programs, limited to these by a university decision to discontinue all undergraduate professional programs, including a large B.S. in Ed. program conducted at night.

The structural contexts of the special degree programs represent a wide range of relationships with the total university. If one views the extension/continuing education divisions which have some relationship to special degrees on a continuum, it would be possible to find the following scale of relationships:

A. *Complete Autonomy*

The academic division which develops the part-time degree program may be an evening college, an extension division, or a college of continuing education (known by various names—Evening College, University College, School of General Studies, etc.)

The program is developed to meet the needs of part-time students, consistent with the academic resource which is available to the division. In this context, the division is likely to have its own faculty, making use of faculty from other divisions on an overload basis or with joint appointments and shared salaries. It is also likely to have the option of using adjunct instructional resources in governmental, industrial, and professional agencies.

Policy for the program is established and implemented within the organization and is not dependent upon other structures within the institution, except perhaps the same central administrative mechanisms needed for policy approval in regular degree-granting parts of the university.

B. *Limited Autonomy*

This arrangement involves a degree-granting division which grants a special degree for part-time students, with no separate faculty, using full-time faculty on an overload basis, supplemented by adjunct instructors from external sources in the community.

Policy for administration of the division is developed and implemented by a board or committee comprised of individuals from inside and outside of the division itself. Often the controlling policy voice is external to the unit. For example, curricular decisions are likely to be made by faculty groups in the regular academic divisions. (Approval for new courses and programs, screening of faculty recommendations, etc.)

If the administrators of the division wish to introduce a new degree program for part-time students, approval must include favorable response from the regular academic division within which the academic credit is to be validated or within which courses in the degree sequence are to be taught. When these approvals have been secured and administrative details completed, the adult education division administers the program and grants the special degree.

C. *No Autonomy*

Some extension/continuing education units do participate in the granting of special degrees for part-time students without any of the initiatives implied in developing programs and granting degrees. They serve as administrative facilitators to permit part-time students access to the degree track through a set of special arrangements. The arrangements may take the form of modified scheduling, modifications of admissions requirements, residency requirements, fee schedules, time limitations, etc. The degree itself is granted by the graduate school or some other division of the university.

D. *Special Degrees within Professional Schools*

One common arrangement involves the development of special provisions whereby part-time students may earn a degree from a professional school within the university.

A school of nursing may offer special programs for practicing nurses, graduates of hospital-based diploma programs, permitting them to earn a baccalaureate degree.

Special Master of Business Administration (MBA) programs represent the largest single category of special degrees listed in the NUEA directory, with the possible exception of master's degrees for education professionals.

Extension and continuing education administrators report that the largest number of students in these programs are admitted through an extension or continuing education division as special degree candidates.

The editor of the NUEA Directory states that new degree programs for part-time students are being created at the rate of one to two per week in the United States, giving dramatic testimony to the breadth of the need and the burgeoning institutional response. But this development is not without its problems, both for individuals and for institutions. Some of those problems are peculiar to part-time students, but many are similar to those which face all students in graduate programs.

Quality

One of the most pervasive issues is the matter of quality and quality control in special degree programs, both internal and external.

A most significant aspect of quality is the nature of the faculty resource made available to part-time students. Recognizing the fact that the adult student brings special experience, combined with a set of particular expectations, to the classroom is not enough to guarantee equal educational opportunity. What is needed is access to whatever unique academic resource the university possesses.

If the part-time student is to get his just due, he must have effective advisement, maximum access to libraries and laboratories, with opportunity for supervised research consistent with the demands of the chosen field and his own career goals.

Relevance of the Program to Student Needs

Many of the programs were designed for traditional graduate students, "related to the inner structure of the discipline, self-development of the students enrolled, and expressive of institutional interest in advancement of the discipline through research and experimentation."⁵ The modification for adult, part-time students too often represented no more than repackaging into time blocks convenient to those who, for one reason or another, could not attend daytime classes.

Opportunity for Student Inputs into the Curriculum Design

Despite the fact that mature adult students bring accumulated experience gained from work and living, there is little opportunity for this to be reflected in the design of curricular programs for them. There is increasing use of advisory committees drawn from professional, technical and community sources, formed to provide a broader base for determining the kinds of educational experiences which might be most appropriate for part-time students.

Not often is one likely to see newspaper ads such as the one that appeared in a St. Louis newspaper this past weekend:

"_____ College announces Master of Arts individualized. You're an adult. The M.A. (ind) is a program for adults. You design your own program. Concentrate in a single area such as

Media Studies
Women's Studies

American Studies
Human Services

or take courses from any of several related areas. We help by suggesting patterns of study and options."

What I am suggesting is that serious consideration should be given to developing the questions that need to be raised—and answered as institutions seek to provide valid educational opportunity for this important segment of the population.

The Meaning of the Degree

There are at least two aspects to this issue:

What does the student have when he completes the program and receives the special degree? Does it have any meaning beyond the fact of a piece of paper? What does it really certify beyond the completion of a prescribed set of requirements? Does it imply acquisition of certain knowledges, abilities, and skills, making possible more effective functioning in a vocational-technical environment?

The second aspect has to do with how the special degree is viewed by society—by potential employers. Some of my colleagues around the country have been developing "non-traditional degree" programs. The proof of their validity, it seems to me, will be dependent upon what recipients are able to do with it. When some employer says, "I don't understand what this means, I can't hire you" the credibility of the institution will be reduced tremendously.

Status Implications of the Special Degree

This has been a problem for institutions and degree programs down through the years. The Ph.D. is still the most prestigious award, and all other doctorates stand somewhat in its shadow. The Master of Arts, with the traditional requirements, brings status, even when it doesn't bring a job.

Extension/continuing education units have been viewed as second-rate academic organizations by other academic divisions, and recipients of their degrees have often suffered from that judgment. This has sometimes forced the extension/continuing education divisions into a more restrictive stance in their attempt to achieve academic respectability.

Freedom from Traditional Restraints to Develop Programs which Meet the Needs of Adult Students—Part-Time Students

These restraints are most obtrusive in institutions which consider themselves to be "bastions of academic excellence." Faculty are more concerned about how they are judged by colleagues in their discipline at other universities around the country. They view participation in special degree programs as academic detours in career development. This, in combination with the pressure to do research and publish, often militates against the use of creative energy to develop such programs, leaving the task to administrators and outsiders.

Making modifications in the reward system to include "brownie points" for a broader range of activities is essential here.

Tension between Academic Divisions Representing Traditional and Non-Traditional Emphases

The Panel on Alternative Approaches to Graduate Education established by your organization outlined three dimensions of this tension and conflict:

- a. the tension between the thrust of democratization and the need to preserve value
- b. the tension between the mastery of scholarship and the need for public involvement
- c. the tension between diversity and order

"The energies of democratization are pivotal matters of concern in planning for the future; the task is to harness these energies, while assuring the preservation of thought and perception."

They continue, "and, for the graduate school, this means ceaseless renewal of its own responsiveness to distinction, as well as sympathetic comprehension of the powerful American will to democratize."

Of the second tension, a provocative statement, "The homogenization of occupation, the collapse of all differences of concern and purpose, is quite as harmful to the cause of teaching and learning, and to the quality of the general life, as is the iron separation of academic life in gated enclaves."

And finally, it was stated that "levels of understanding of role and function are needed to make it possible for each kind of institution to contribute to the work of others, unself-consciously, uncondescendingly, and in the spirit of equals performing divergent honorable tasks."⁶

The shape of tomorrow's world is rapidly coming into view. John Platt has written:

"I think there is no doubt that mankind is now passing through the greatest transformation in history.

"Our technical and social inventions since World War II have gone far beyond the greatest inventions before that time in almost every field. They have swept the planet and many of them are pressing against the limits of what is physically possible. Television carries sight and sound around the world to almost two billion people at the speed of light. Intercontinental missiles with hydrogen bombs have reached the point of overkill. We have moved into a world of jet planes and space travel and nuclear power and electronic data processing and DDT and the Green Revolution and oral contraceptives and credit cards. And between our nuclear threats and our population pressure, our pollution and our consumption of natural resources, we have suddenly become responsible for almost everything that happens to all life around the globe....

"These are not changes by a few percent or a few hundred percent, but by orders of magnitude. Under their impact, all our social institutions, local, national, and international, are dissolving and changing before our eyes—as they must change if we are to manage these fantastic new powers and problems without killing ourselves. It is like ten Protestant Reformations and Industrial Revolutions rolled into one."⁷

While the shape of the future is not yet clearly discernible, Platt feels that the future is in our hands. "Our decisions and actions through this period of transformation, in responding to crises and building new institutions, are already determining what kind of society, if any, we and our children will have in the new world ahead."⁸

I suggest to you that higher education can make an appropriate contribution to all of this if it does the following:

1. Clarify its own role.

Colleges and universities cannot be all things to all people, and there should be earnest attempts to clarify what they are really attempting to do.

2. Take a critical look at the social changes taking place which have implications for higher education.

Boyer reminds us that "most of our institutions today still reflect the social and economic context of the century in which they were born rather than 20th century needs and concerns. . . . A hundred years ago, higher learning was intended only for the privileged few. Potential students were scarce, and talented teachers scarcer still. Travel was difficult and communication was limited. The primary teaching device was the human voice. Books were expensive and limited in supply. Campuses were protected from the 'unenlightened' outside world."⁹

3. Examine possible responses which seem appropriate.

The new social context will profoundly influence institutional structure and practice and we must be about the business of understanding as clearly as we can what kinds of change will facilitate adjustment.

4. Determine which responses seem consistent with the perceived mission and role of higher education.

5. Develop the staff necessary for successful implementation of the responses selected as fundamental to effective functioning in today's world—and most likely to lead to smooth transition into tomorrow's world.

6. Then get on with the task of helping today's citizens prepare for life in the context of three worlds—yesterday, today, tomorrow.

We face several specific challenges:

To concentrate on developing the new range of talents and interests which non-traditional students bring to higher education, instead of continuing our preoccupation with "correcting their deficiencies."¹⁰

Recognize that in spite of clusters of cultural similarities, learning is an individual matter and individual styles must be encouraged.

Avoid the pernicious practice of labeling as "disadvantaged" or "risk," "special" students because they do not fit the traditional 18 to 22, white, middle-class, full-time mold (and may be female, older, part-time, minority, inner city, rural, etc.)

Provide an intellectual-social environment which permits the development of a more inclusive view of the world than one's own particular cultural, social, sexual context.

These are the challenges. How we respond to them will determine in large measure whether we are destroyed by the crushing weight of three colliding worlds or live the exciting life made possible by our ability to keep those worlds in creative relationship to each other.

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Charles T. Lester

A distinguished professor always makes me nervous because I think if there is anything a dean would really like to be it would be a distinguished professor. We have with us today Cyril O. Houle, of the University of Chicago, who is a distinguished professor. Professor House received his Ph.D. from the University of Chicago and has been on the faculty there for some time. He is most famous, I think as far as we are concerned, as being the author of the book *The External Degree*, of which he will speak. It is my distinct pleasure to present a distinguished professor, Dr. Houle.

Graduate Education and the External Degree

Cyril O. Houle

A deeply-rooted tree is in the worst possible position to observe the shape of its forest. This fact is much in my mind this morning. In thirty-five years of academic life at six universities, it has invariably been considered unwise to shock the tender sensitivities of undergraduate students by exposure to me. I have never once taught—or even been asked to teach—anything but graduate courses. Consequently, here I am, a mere tree—or, some might say, a weather-beaten bush—deep in the forest of graduate instruction, trying to describe the influence upon it of an essentially external phenomenon. Even worse, these remarks about the terrain are being addressed not to a covey of quail or even to a pride of lions but to a supremacy of deans.

It is fortunate therefore that long years of academic senates and committees have deeply ingrained in me the belief that every faculty member is omni-competent in all aspects of university administration. Nobody has ever met a professor who doubted his own grasp of this subject, though it is unclear whether this trait is acquired or is transmitted by the genes. Whatever the source and accepting this universally-held principle, I shall proceed confidently to describe the implication of the external degree for graduate schools.

Dean Ervin and I consulted at length about how to divide our shared topic this morning. He offered to restrict his remarks to the extension degree, a suggestion which he made, I may say, with remarkable alacrity. He knows, as do we all, that the extension degrees is well-established and long-honored, whereas, in the 1960s and 1970s an amorphous cloud of new kinds of external degrees and new methods of instruction and assessment have come into being. Some of these ventures are distinguished and rigorously controlled endeavors, some are well-intentioned but operated on dubious and sometimes rapidly-changing principles, and some are cynical efforts based on no discernible ethical standards. Considered collectively, they are

extra-ordinarily hard to deal with, particularly since no tests have been devised to measure their quality or the integrity of their sponsors.

Without being comprehensive, let me suggest a few ways by which this diversity is demonstrated. Some external degrees are offered by institutions created solely for that purpose; some are offered by established independent institutions, either to replace a former degree or to add a new option; some are offered as part of the work of a multi-campus university or of a state-wide or city-wide degree system; and several are offered by multi-state consortia.

The internal structure of the new degree may take one of three forms. First, some institutions work wholly within the established American credit pattern, adding up courses or recognized course equivalents such as CLEP scores or evaluated military programs. Second, some institutions use credit as a time-honored bookkeeping and fee-setting unit but alter its application to include new systems of teaching and learning, new bodies of content, new concentrations and distributions of study, or new ways to assess results. Special conversion arrangements may need to be adopted. Thus, an interpreter for the United Nations may be granted eighteen units of language credit, nine in French and nine in German. A composer whose works are performed in recital may thereby earn twelve semester hours in music. A year-long volunteer in city government may fulfill a contract and meet the requirements for a minor in political science by submitting a portfolio giving evidence of practical accomplishments, rating scales, testimonial letters, a detailed diary, and the results of civil service examinations. Third, some institutions reject the obvious advantages of credit and depart entirely from tradition. The creators of such a degree wish to reconsider its whole meaning, identify the competencies and a system of appraisal which certifies their accomplishment. The values of independent thought and control, such people believe, outweigh the advantages to the student of being part of "the system".

Another profound change in tradition is the abandonment of unified control by a single institution over the five functions of counseling, admission, instruction, evaluation, and degree-awarding. For example, the Central New York Regional Learning Service and the Capital Higher Education Service of Hartford do counseling and referral but little else. Open admission, abandoning either quality judgments or geographic limitations, has become a widespread practice. Many community institutions—among them libraries, museums, industry, labor, government departments, and proprietary schools—teach but often do not evaluate and almost never award degrees. The New York Board of Regents and New Jersey's Thomas A. Edison College counsel and admit students, do some evaluation, and award degrees—but do not teach.

Nobody can count the new external degree programs already in existence or under consideration, for they are being proposed and established very rapidly and in many different forms. The number must be substantial, a conclusion which may be suggested by a single example. One perplexing problem which most new programs face—particularly since most of their students are adults in the full stream of mature responsible life—is how to

award credit or other recognition for the lessons learned from experience outside a classroom and often before the student has presented himself or herself for evaluation. To confront this challenge, the Educational Testing Service and ten collaborating colleges and universities have established CAEL, an acronym for the Cooperative Assessment of Experiential Learning, which is now involved in a study of various aspects of the subject. Other institutions were invited, for a substantial fee, to join an Assembly, whose members have the right to collaborate in some projects and to be informed of others. Almost at once, 174 colleges and universities joined the roster.

While the external degree seems new to many people, both its general form and its component elements have long been present somewhere. If we examine our European antecedents, we see that the degree itself is a fairly ancient concept, slightly younger than the research-centered German university and slightly older than the current era of Oxford and Cambridge. From 1836 to 1900, the University of London, despite its name, was a government bureau certifying people for degrees. Only in the latter year did it first begin to offer instruction. At many European universities, ultimate assessment of the students' accomplishments has always been separated from their instruction. The American credit system (with all its countless subtleties and refinements) was established only in this century and most of the rest of the world gets along without it very well. Meanwhile some touted new techniques turn out upon examination to seem rather familiar. For example, we have heard much of the role of the mentor. Does it really differ greatly, either in ideal or in practice, from the work of the Oxbridge tutor or the Ph.D. thesis supervisor? How about the locus of the student? Can we draw a sharp line—and if so, where—between a man or woman attending classes part-time or campus in what Ernest Boyer has called "the youth ghetto" and the man or woman enrolled part-time in an external degree program?

Ultimately I shall suggest that an important difference does exist between what we have long known and the external degree movement with which we are now becoming familiar, but it would be useful to work up to that point gradually by first mentioning three of the challenges now confronting graduate schools.

The first has to do with the admission of those who hold baccalaureates from the new programs. Present admission procedures usually rest on grade point averages, recommendations written by undergraduate professors, the general reputation of the college which granted the degree, and Graduate Record Examinations scores. Three of these four old reliables seem to be losing their discriminative power. The evidences of undergraduate success may be indicated by combinations of portfolios, mentors' assessments, evaluation committee reports, credits earned in unusual ways, and equivalency examination scores. These certainly cannot be averaged and, to the uninitiated, they cannot even be understood; they add up to an exotic salad of strange fruit. The recommendations of undergraduate professors have always had to be regarded with some suspicion; now the junior Senator from New York, Mr. Buckley, has made it necessary for admissions officers

to deepen the skepticism of their scrutiny. The general reputation of colleges grows harder and harder to assess and may be subject at any time to radical change. How do Empire State College, Thomas A. Edison College, Framingham State College, and Minnesota Metropolitan State College compare with other institutions in their own systems? How do the extended programs of the University of California or the California State University and Colleges compare with the non-extended programs of the same institutions? It appears that, as grade point averages, professorial recommendations, and institutional reputations grow even harder to deal with, the GRE score will rise triumphant as the ultimate determining test of admission. I know of nobody, least of all the executives of the Educational Testing Service, who would wish that score (at least as presently derived) to bear the full burden of admission to graduate school. Some of the complex issues involved in its present or possible use were, in fact, masterfully analyzed by Warren Willingham of the ETS staff in a January issue of *Science*.¹

It might be wise for the members of this Council to act collectively to keep informed of new developments so that admissions procedures may be based on a knowledge of changing circumstances. As yet, graduate admissions staffs are coping fairly well with trickles of applications from external degree graduates, being helped in the process of analysis by expertise gained from dealing with foreign students. We hear few cries of deep anguish from anybody. But as the number and variety of external degrees increase, the burden of making decisions and appropriate placements will grow ever greater. The task of reading a voluminous package of assembled materials of many sorts takes longer and requires far more subjective judgment than does the practiced examination of a one-page transcript of course grades. When the mail begins to bring hundreds of such packages, the level of anguish will rise not only among admissions counselors but also among those applicants who will say that they have been inadequately judged—and perhaps will be able to prove it!

May I diffidently suggest therefore that the Council appoint a committee of its member deans, perhaps in association with other interested academic assemblies, to see just how the emerging problem might be handled. Perhaps some kind of continuing and collaborative information-providing service is needed to support the ultimate decision-making power which must remain in the hands of each dean and graduate faculty.

A second challenge to graduate schools is one of which they may not be fully aware, partly because they have been gazing fixedly for so long at another allied problem and partly because the difficulty to which I refer is not as yet a very great one. We have long been worried about the integrity of some of the institutions which award graduate degrees and which, calling themselves "universities", exist on or beyond the boundaries of the educational establishment. But while the problem of these organizations continues to exist, they play the academic game according to rules which have long been in existence and which the leaders of higher education both understand and control. Sooner or later, a marginal institution establishes

its credentials, goes out of existence, or makes such a good case for its novel approach that the rules are adjusted to accommodate its uniqueness.

But another and essentially different problem is beginning to present itself: the award of specialized graduate degrees by institutions which are not universities but which do have brilliantly qualified staff members well able to offer the masters' or the doctors' degree. An industry which uses advanced technology, a large medical complex, a company heavily engaged in research and development endeavors, a specialized civilian government department, or a branch of the armed services: such entities as these now award certificates profusely to the graduates of their educational programs. Many of them will soon want to take the next step and offer degrees.

Why shouldn't they? We can all think of a good many answers to that question, but the reality of need may negate them. Imagine yourself to be a counselor in the personnel department of a company employing several thousand people in a highly skilled industry. In the company are people of all the usual ranks but the common characteristic of most of the senior people is the fact that they have a doctorate in a field of work allied to the product being produced. Into your office as counselor come men and women in a small but steady flow. Their comments center around a common theme: how can they progress to more responsibility, more authority, more prestige, and more money? The percentage of such people who are women, who are black, or who have Spanish surnames is significantly larger than that in the roster of senior employees. The people who come to see you want a doctorate. It would be hard, on the basis of their records, to assert that they could not win one. Sometimes they even do the work of other people whose degrees allow them rank and perquisites. Yet, how can these ambitious people remedy the inequity of the system in which they are caught? They have wives or husbands, children or other dependent relatives, and mortgages to pay off. They cannot leave their jobs to go away to study. The world-famed university just next door is so little interested in them that it does not even provide anybody with whom they can talk about their problems. Meanwhile in nearby offices work a cluster of well-educated scholars who could supervise a graduate program which the great university might have trouble matching.

The profoundly egalitarian spirit of this country which has produced our broadly available graduate schools will not long permit the continuance of the condition suggested by my illustration. Several break-throughs into the academic fortress have already occurred; they have usually been isolated cases or limited by special conditions. But in the distance—near or far—lies the necessity for graduate schools to face squarely the issues about whether non-universities should be permitted to award advanced degrees. We who share this problem have several options.

1. We can stonewall, a policy which, I might remind you, has not been very successful under certain other circumstances.
2. We can set up machinery through the accrediting associations to handle each segment of the issue as it arises. *How* they will handle it remains to be seen

3. We can collaborate bilaterally or multilaterally with "outside" institutions, as many universities have already done with the armed forces, other government bureaus, or industrial concerns.

4. We can follow a British model and create an entity of some sort which accredits programs but awards the degrees itself. The established British ways of securing a master's degree or the D.Phil. are already so complex and fog-bound that I fear I shall never comprehend their specifics. Even this multi-optioned system is not adequate, however, to deal with the current sense of need. It has been felt necessary to create the Council for National Academic Awards—headed by the nation's second-ranking citizen, the Duke of Edinburgh—which is intended to be the largest degree-granting entity in the land. It does not bear the name "University" nor does it offer instruction. Instead it assures itself, through close scrutiny largely carried out by professors, of the quality of instruction and evaluation undertaken by institutions which do not themselves have the right to award degrees.

Which of these four alternatives we follow cannot be predicted. Perhaps some fifth one will present itself. But I wish we would have a serious look at the Council for National Academic Awards to see if we could not learn something from it. Many highly distinguished British academicians do not favor it. A few argue, in their English way, that it "goes too far"; but the majority of its critics seem to think that "it does not go far enough." The C.N.A.A. has had little publicity on this side of the Atlantic. Yet if the foregoing analysis of an important national need for graduate degrees is correct, we might find that the relatively obscure system which influences so much British intellectual life uses some principles on which we might build a distinctively American counterpart.

The third challenge is an immediate one. It seems inevitable that graduate schools will themselves want to establish many more external degrees than they already have and they need to know how to do so most effectively. So far most such degrees have been occupational in character. M.B.A. programs designed especially for well-established executives have been in operation for thirty years. Many of their graduates are now captains of industry and members of university boards of trustees. On the other hand, many adults believe that their earlier education was too specialized. Though they may already have one or more professional or scholarly degrees, they embark on a program designed to lead a master's or doctorate in liberal studies. But more, much more, is likely to occur in the designing and awarding of special external degrees, partly because graduate faculties see such action as a way of being of service and also maintaining their establishments and partly because, as the conception of lifelong continuing education transforms our society, mid-career students will make their needs ever more pressingly evident.

Academic folklore accepts the founding of Johns Hopkins University in 1876 as the date when graduate education came fully of age in the United States. Lofty plans such as Jefferson's, individual professoriates, and institutional efforts had existed much earlier but most were still-born or had a neo-natal death. Daniel Coit Gilman said as much at his inauguration; "we

reap the lesson," he observed, "while others bear the loss." Yet, from the very start, the graduate school has been at once the most prestigious and the most criticized part of the university's structure.

At the first meeting of this Council in 1961, Bernard Berelson said to you and to your predecessors that "the people in this room are in charge of the most important segment of the most important institution in the most important country in the world." The fact that he felt the need to make that remark suggests his belief that you felt the need to hear it. Nobody knew better than he, a rigorously disciplined social scientist who had just completed two years studying graduate education, that he spoke the simple truth. Yet also, nobody knew better than he that for eighty-seven years somebody or other had been whetting a knife or actually using it with intent to do you bodily harm. Now it is your ninety-eighth year and soon you will have had a century of both accomplishment and criticism. You have become so used to the long litany of complaint, much of it chanted by your own members, that suspicion may well have been the major response to Berelson's hymn of praise.

What is the cause of this dissent? Envy of your status and accomplishments plays a part—perhaps the largest part. On both the radicalism-conservatism spectrum and on the scale which ranges from traditional to emergent values, graduate schools are constantly attacked, often on both flanks simultaneously. But at the heart of the discontent lies something else. You will all have read the remarks by William James in 1903 concerning the "Ph.D. octopus" but perhaps you failed to note in his paper the dictum that "every reality becomes a sham somewhere." In the effort to preserve the substance, the graduate school has sometimes protected only the form. For example, the deep, vital, and long-continuing interaction of German professors with their students in seminars lay at the heart of that country's nineteenth century academic supremacy. Yet the modern residue may be only an arbitrary residence requirement which brings a student to campus by bus or subway several times a week to sit in a large lecture hall for an hour before reversing the pathway and making his or her way home again.

If reality is to be restored, the preservation of regulations will not suffice. Any traditionalist who wants to do so can usually find ways to slip through or around the rules. The non-traditionalist with integrity raises doubts as to their validity. Instead he or she asks what competencies are necessary for a given degree, how they can best be acquired, and how their accomplishment can be assessed. If residential study has essential values—and I believe it does—then let it be true residence, with the students living, working, and interacting with one another on a full-time basis. Perhaps, especially with adults, the time so spent must be concentrated into one or two week sessions, as is true of many external degrees both here and abroad. The students and faculty members who go through such an experience almost invariably feel they have been profoundly influenced by it. The reality of residence becomes manifestly present, replacing the sham which some graduate faculties have made of the arbitrary requirement.

So long as we live wholly in the youth ghetto, secure in our routines, we shall fight great battles but win few victories. For example, the foreign language requirement was originally introduced because so much of the results of scholarship were available only in French or German. Now we have Homeric conflicts over retaining the requirement, and the reasons for doing so may have little to do with sophisticated and specialized study. If, after prolonged debate, the issue develops into a stalemate, as it often does, we may fall back upon so-called "substitutes". Would a computer "language" satisfy the requirement? No, because a computer language is too simple compared to the subtleties of French or German. How about *two* computer languages? Well, perhaps yes, because you would then test complexity; furthermore you would test what is called "an insight into the computer" though it is not clear why that insight is universally desirable. In this way the debate is resolved, though the underlying issues are seldom fully understood.

Battles of this sort have long been characteristic of universities which offer advanced degrees. We can keep on engaging in them in an Olympian fashion so long as the graduate school maintains its prestige by operating in its traditional mold. How long can this status be maintained? To that question, I have a quick answer. I don't know.

You will already have anticipated my conclusion. As we look outside the walls of the university to new and more mature clienteles, the shams which once were realities will not suffice. The ritualistic ceremonies conducted for relatively young people may continue if we like, if we must have them, and if we can keep up our strength. But for new audiences of mature, sophisticated, balanced, and eager learners, we must design degrees which they can understand and we can defend. Perhaps in that non-traditional arena, we shall discover new lessons and find new courage. Eventually we may be able to turn back to our youth ghettos and, from what we have learned, replace sham with reality even there. What a wonderful way that would be to earn a second century of envious criticism!

¹"Predicting Success in Graduate Education," *Science*, 183 (25 January, 1974), 273-78.

Luncheon

Thursday, December 5, 12:30 p.m.

Chairman: Charles T. Lester, *Emory University*
Presentation of Gustave O. Arlt Award in the Humanities
Guest Speaker: Allan Cartter, *University of California*
Los Angeles

Donald J. White

Ladies and gentlemen, my principle challenge is to explain to you how it happens that I am here instead of someone else. We work together in Boston and it turned out, unfortunately, that our good colleagues from Brandeis could not attend this annual meeting. I was contacted and asked if I would be kind enough to accept the Gustave O. Arlt Award in behalf of the recipient. I am indeed pleased and privileged to have this opportunity to accept this Award on behalf of Dean Jack Goldstein and his associates and the recipient, Dr. Ray S. Jackendoff.

Gustave O. Arlt

I would like to say only a very few words; namely, this is one of the proud moments in my life, and has been every year for the last three years, to be present at the Award that is made in the field of the humanities to a young scholar who within the last five years has completed his doctorate and who during this period has written a significant book in his field. The first year, the awardee was an English scholar; the next year, it was a professor of history; this year, a professor of linguistics. I regret that the recipient is not here because I always like to shake their hands and congratulate them. They certainly deserve congratulations having survived a selection that is rigorous to say the very least. I am pleased with the book that was presented this year. It is in a rather complex area of linguistic interpretation.

The Council of Graduate Schools has given me the privilege of choosing each year the field in which the Award is to be made. For next year, I would like to choose the field of modern foreign languages, without respect to any individual language—that is, it could be in French, German, Italian, Spanish, Russian, or in any modern foreign language or in the field of the history of literature. As many of you know, the history of literature was my academic field before I was seduced by administration; and I have saved up my own field until the fourth year due to the competition.

Charles T. Lester

At this time, it is my privilege and pleasure to introduce our guest speaker. I have known Dr. Allan Cartter for quite some time. When I first became acquainted with him, he was practicing economics at Duke University, which being the wealthiest institution in the south, is a mighty good place to practice in. Most of you are familiar with two of his principle contributions. He is the author of the Cartter Report issued by the American Council on Education which was the first systematic reputational study ever instituted in an effort to get some interrelative evaluation of graduate programs in the United States. In addition, he also did some indepth studies on the measures of quality. We also remember Dr. Cartter as the man who first predicted that we were producing too many Ph.D.'s to be absorbed into academic employment. Subsequent events have certainly proven him a prophet. He was wry ahead of some other people.

Dr. Cartter is currently at the University of California, Los Angeles, where he is a professor of higher education. We are delighted to have you here with us, Dr. Cartter, and look forward to hearing from you.

An Updated View of Academic Labor Market Projections

Allan M. Cartter

It is a pleasure to be back at a meeting of the Council of Graduate Schools again. I certainly have not attended all fourteen, but I well remember the first several meetings. My introduction to the ranks of being a graduate school dean was about two years before the Council was formed; and I remember, as I suspect only a few current deans would, that the first decanal event was that somebody handed you an important piece of literature: the report of the distinguished "committee of fifteen" graduate deans, written about 1955. I remember it well, and I believed every word it said—that there was going to be a disastrous shortage of Ph.D.'s until the end of the twentieth century. There was one lovely quote, that I have always assumed Peter Elder wrote, which said: "to anticipate a decline in the percentage of college teachers with the doctorate from 40 percent today to less than 20 percent in the early 1970's is not statistical hysteria but merely grass roots arithmetic." The world has somewhat changed since then.

Two years ago, I had the pleasure of going to the WAGS meeting in Albuquerque, when I was first planning the study on Ph.D.'s and the academic labor market. A few years ago, at the AGS meeting in New Orleans, I spoke briefly when I was about half through the study. Now it is about 90 percent completed and I have to confess to any of you who heard me a year or two ago that I am still almost as puzzled about what the future is going to look like as I was then.

Let me quickly review why the world looks so differently today than it did even five years ago from the point of view of the future prospects for the

academic labor market. You are all familiar with the rapid slippage in the population projections. In 1966, when one tried to project ahead for high school and college enrollments, they used the census series B that predicted we would have some 24 million 18- to 21-year olds at the end of the century. By 1968, we had shifted to census series C, which was 21.5 million at the end of the century. By 1970, we had moved to D with only 19 million. In 1972, it went to E with 17.5 million, and today everyone talks about series F projections which estimate that by the year 2000 we will have almost exactly the same 18 to 21 populations that we had in 1972. That's a very sharp change in outlook over a period of less than ten years—but at least demographic changes give you a fifteen to twenty-year lead time to adjust to.

Much more critical in the last several years, has been the rapid change in participation rates in higher education. The high school graduation rates which most of us confidently predicted a few years ago would continue to increase as a share of the 18-year old population by about one percentage point a year, peaked in 1968-1969 and it has dropped off about three percentage points for men and almost two percentage points for women in the last five years.

The rate at which high school graduates enter college was about 60 percent for men in 1960, rose to almost 71 percent in 1969, and has now dropped back to 62 percent. For women over the same period it has gone from 40 percent to a peak of 54.5 percent, and now down to 53 percent. The men have now returned to the 1961 level, while the women now seem to have about leveled off at a new plateau.

If you look at the college completion rates, you find somewhat the same pattern. For 1960 about 50 percent of men who entered higher education completed the baccalaureate. In 1971 it reached 58.5 percent and is now back to 53 percent. For women, it was 49, 58, and 54 percent respectively. Graduate school entrance rates show much the same pattern. First-time entrance into graduate school as a percent of B.A.'s is estimated in the late 1950's at about 25 percent (including professional fields.) By 1967 it had risen to 41 percent, but in 1973 back down to 32 percent. Finally, if you look at the rate at which those who enter graduate school complete the Ph.D., again the familiar pattern. Doctorates lagged about five years as a percent of first-time students has gone from a little over 7 percent in 1960 up to 8.5 percent in 1969-70, and has now dropped back to 7.3 percent again.

Each one of these key rates, ratios, or percentages has peaked in the late 1960's and now has dropped. At this point everyone has their own crystal ball as to whether things are leveling off, whether this is merely a brief post-Vietnam war readjustment and then return in growth trends, or whether we have really started a new downward trend in participation in higher education.

In the mid-60's I was often considered a great pessimist; in relative terms today I think I am an optimist, although I still believed almost all the things I believed in the mid-60's at my earliest attempts to try and project enrollments and Ph.D. outputs in 1964.

I went back the other day just for fun to look. I was pleasantly surprised to find that the 1964 projections for this year, are within 1.5 percent of where we are. And my 1964 projections for 1980 are within about 2.75 percent of where I now think we are going to be in 1980. I should add, in all honesty, that several of the projections that I made in 1968 and 1971 were not nearly so good. My current projection for the 1972-82 period indicates a 20 percent increase in enrollments; the National Center for Educational Statistics, in the last issue of *The Chronicle of Higher Education*, predicts only 10 percent. Perhaps more distressingly, if you look carefully at the NCES projections, they are guessing that first-time entrants at the undergraduate level at two-year institutions will rise by some 19 percent over the decade, but at four-year institutions freshman enrollment will drop by 18 percent. I still anticipate a rise on both counts, but somewhat higher in the two-year sector. Several economists have recently predicted a drastic (i.e. 40 to 50 percent) decline in enrollments, based on declining rates of return and a more rapid rise in the college educated labor force than the economy can absorb. I don't share this pessimistic point of view. I would still guess that 1990 enrollments will be 10 to 15 percent above today's level. I believe higher education is considered an important experience for youth and that there is no real and permanent disillusionment on the part of the young in college education.

At the graduate level, however I think one has to be prepared for the fact that enrollments will be more responsive to job opportunities and to market forces. Certainly, the physical sciences, over the last five or six years, demonstrate this rather well. Lincoln Moses, in a very good paper at the WAGS meeting two years ago, used the example of physics and the sharp decline that occurred in physics' enrollments paralleling the dimmed outlook for academic job prospects in that field.

There is a debate that now goes on among the futurists about the basic approach one should take in trying to make projections. There are really three basic alternatives: one is merely to project past trends, which a lot of us used to do in the 50's and early 60's. I think we realize that trends change and that is not very safe. The second is to try to anticipate changing trends—in the forecasting literature these are called fixed coefficient models—and to predetermine what you think is going to happen to graduation rates or college entrance rates and then try to project ahead. Or the third approach, which is to build a model that includes market responses, a kind of recursive feedback model.

I would highly recommend the short essay that the National Board on Graduate Education brought out about a year ago, jointly authored by Richard Freeman and David Breneman, looking at manpower forecasting and reviewing the literature on these models. The authors strongly urge that in the future we should attempt to build market response models, for you learn more from experience and you have a much better chance of reflecting accurately the changing trends over time. The Office of Education projections, I think, are much closer to the first of these three alternatives. My early work was halfway between the first two, but my current effort moves part way towards a market response model.

What I have done in the book I am just completing, which is partly intellectual exercise but partly a useful way to get the project done, is to approach the problem of projections first by trying to make the wisest fixed coefficient model one could make with current data and then go back and add in market responses and see how that changes the outcomes. Starting with the former (the kind of projections I have made in the past), the estimates for graduate enrollments look something like the following. A 4.5 percent increase in graduate enrollments in 1974 (that is almost on target with the latest CGS/ETS review) followed by about 1.5 percent increase in 1975 and then almost stable enrollments for the next five years. A modest increase in the early 1980's is indicated, and then a rather gradual decline over the next ten years coming back to the mid 1970's level. The peak would be about 10 percent over today's level.

In terms of Ph.D. output, my estimates (again using the fixed coefficient projection) are a gradual increase up to about 46,500 by 1990. For 1982, which is as far as the NCES projection goes, I am about 20 percent below their figure, which appeared in the *Chronicle* this past week.

The second effort attempts build in market responses. The enrollment model in simple terms assumes that graduate enrollments depend about one-third on demographic factors, about one-third on the level of R&D spending (which is used as a proxy for employment in government and industry), and about one-third on the projected number of new faculty openings (based on expected enrollment changes). These three factors produce an estimated graduate entrance rate which is then applied to BA's to project entering graduate students. The second portion of the model predicts the Ph.D. completion rate. This is a kind of inventory model that takes the cumulative deficit or surplus of doctorates over a five-year period, writing off 20 percent a year so at the end of five years any single cohort is assumed to no longer have any impact on the current job market. The model projects a Ph.D. completion rate that drops from about 7.4 percent today down to 6.3 percent in the mid 1980's and then hovers at about that level. Putting these components together, the model comes up with a Ph.D. projection rising from today's 36,000 to a peak of 43,000 in 1971 declining to a little below 35,000 in the late 1980's, rising again to about 40,000 in the mid 90's. The long-term trend might be said to be a kind of steady state, but there are considerable swings above and below the trend line.

An implication of such a projection is that there are going to be shifts and imbalances between fields; there are going to be different growth and contraction patterns. Those are much harder to predict, but I think there are some clear signs. One is that most of the EMP fields—engineering, mathematics, and physical science fields—over the long-run period, are going to have fairly sustained growth. One assumes a growth pattern 3 or 4 percent annually. In the social sciences, it seems more likely that enrollments and degrees are going to stabilize within the next several years and remain that way for fifteen years or so. In the arts and humanities areas, with a few minor exceptions, I believe that the present capacity is probably at least double what we will need for the next twenty years. And

the first reports on this year's entering enrollment sort of belie these expectations, that is, if you look at how enrollments are actually it is always a little disappointing to look and find that the fastest growing field at the graduate level today is education where it seems to me there are the most severe job shortages, and the second fastest seems to be the humanities.

Overall, I think the job market prospects, assuming that the economy is not a disaster for the rest of this decade, are probably going to be slightly better than the last three years for the rest of the 1970's. Total new hiring of college teachers, according to these projections, would be about 15,000 a year under existing patterns of retirement, tenure, and so forth. From 1980 to 1995, however, it looks as though it may drop down to only 5,000 or 6,000 a year. Compare this with the approximately 35,000 new teachers hired in 1968, the peak academic employment year. In my judgement, 1980 to 1995 is going to be the real problem period for graduate education.

In the study I try to look ahead over the next fifteen years and predict age and rank and sex distribution of faculty under different assumptions as to hiring policy, retirement, tenure rules, changes in relative salaries, and so forth. There is amazingly little information on faculty mobility under changing market conditions, and one has to piece together data from a number of adequate studies. A few interesting indications emerge, however, which give you a feel of what is going on in the academic labor market. In 1963, for example, about 8 percent of all college teachers changed jobs but remained within college teaching—they merely moved from one institution to another. Of those who changed jobs, about 35 percent had the doctorate. In 1968, which was the peak hiring year in the 1960's, about 4.5 percent of all faculty members changed teaching jobs and of them 50 percent had the doctorate. In 1972, the poorest hiring year we have yet experienced only 1.4 percent of the faculty changed teaching jobs and 75 percent of them had the doctorate. One gets the picture of a faculty under different market conditions today becoming much less mobile, and about the only ones moving today are those who have high credentials.

There is a similar pattern for new faculty drawn from other employment. In 1968 about 11 percent of the new hires came out of the public school system area (i.e., high school teachers), of whom about 9 percent had the doctorate. In 1972, it had dropped to only 6 percent of the new hires coming from the public schools and twice as high a proportion had the Ph.D. or Ed.D.

For new teachers drawn from other non-profit and post-doctoral and research types of appointments, the percent of new hires went from 3.6 percent to 9.4 percent, and from 15 percent doctorates to almost 40 percent doctorates. So one begins to see this pattern of persons with higher credentials being about the only ones that are still mobile in the system. Mobility flows and hiring standards are obviously highly responsive to changing labor market conditions. Between higher education and non-academic sectors, and during most of the 1960's there was a flow of about 3 or 4 percent a year in both directions that just about balanced off. In the late 1960's, the net flow became a plus of almost 1 percent per year. In the early 1970's by contrast, there seems to be a very slight net outflow of senior personnel.

These flows, largely determined by realtive salaries, are terribly important in terms of projecting the future health of the academic labor market. Only a change of 1 percent in this net flow, e.g. 4 percent depart and 3 percent enter—makes a difference of about 4,500 job openings a year. So it only takes a 1 or 2 percent flow annually to change the whole picture of the job market for the new Ph.D. coming out of graduate school.

College and university policy today, in many institutions, is putting pressure on departments to replace any departing senior professor only at junior ranks. Such a policy would increase the net outflow of senior people and also provide more job openings for younger people. If the average retirement age declines in higher education (and I think there is some indication that it may drop to age 65 over the next seven or eight years through both lower mandatory retirement ages and greater encouragement of voluntary early retirement), and *if* academic salaries tend to lag 10 to 15 percent behind non-academic salaries relative to where they were about 1970, and *if* colleges and universities begin to enforce hiring the assistant professor level every time there is a vacancy—if all of these things happen it is quite likely there will be a 1 to 1.5 percent annual net outflow of senior personnel in the 1980's. Such market responses, combined with some modest expansion and replacement might raise the level of new hires directly from graduate schools in the 1980's to 10,000 to 12,000 annually. That's still somewhat depressing by comparison with 1960's hiring levels, but not too bad in comparison with today.

One other interesting prediction emerges from the model of faculty flow; in 1972 25 percent of college teachers were under age 35, but it is estimated that by 1990 only about 15 percent will be under age 25. The over-50 group is projected to grow from about 27 percent of the faculty to 36 percent. There is a somewhat traumatic shock when one reviews the data on age distribution of faculty—about 80 percent of all college teachers are younger than the average dean present here. The rapid expansion of the 1960's produced a very skewed age distribution.

One last thing I want to mention is some evidence of changing hiring experience within the universe of higher education. I have been looking at first-job placement data over the last six or seven years trying to see where new Ph.D.'s get their appointment. In 1967, 62 percent of the male Ph.D.'s took their first teaching jobs in universities not colleges. By 1973, it had dropped to 41 percent. At the four-year colleges for men it went from 34 percent to 49 percent; at community colleges and secondary schools the percent taking their first jobs there rose from 3 percent to 10 percent. Today's Ph.D.'s are less frequently finding their first jobs in large universities, and more often going into the four-year colleges and community colleges. This may raise the question as to whether we ought to change the type of student or the type of training if fewer and fewer of them are going to be in research-oriented universities.

By sex, the shift is even more interesting. We grouped universities by category based on the ACE surveys and analyzed where people got their degrees and where they took their first jobs. In 1967, 20 percent of the male

Ph.D.'s emerging from the top ten universities took their first jobs in those top ten universities; they either stayed on or shifted laterally within that group. By 1973, it was only 10 percent. For women, in 1967, 9 percent who got their degrees in the top ten stayed in the top ten. By 1973, it was 13 percent. This pattern is similar for every category of university; by 1973, women were doing better than men in terms of first-job placement. Overall, for all doctorates entering college teaching, as of 1973, 25 percent of the women were getting first jobs in institutions of at least equal prestige to the one from which they earned their degree, as compare with only 21 percent from men.

These enrollment projections and the anticipated market responses are somewhat speculative, but I think it is encouraging today that there are a number of academic labor market studies going on around the country, and increasing interest on the part of the professional associations. We are moving beyond doing quick and dirty intuitive projections, and testing more and more sophisticated models of market behavior. The social scientists for a generation have spent most of their time looking out our academic windows at the rest of the world; it's rather intriguing now to start looking within our own structure and behavior. We are going to learn a lot more by trying to create more sophisticated response models and testing them against experience. The great lack is adequate data, and it remains a mystery to me why the Office of Education has spent no significant effort on studies of faculty structure and mobility since the two big studies they did in 1962 and 1963. Just when we critically need good data, we are very ill-informed. My advice to graduate deans would be to anticipate a somewhat bleaker enrollment outlook than we might have anticipated a year or two ago, partly for demographic reasons and partly because of these changes in educational participation rates. At the graduate level the market responses, in terms of enrollment effects, so far have been much more noticeable in the sciences and almost unnoticeable in the humanities fields. Better information on job prospects and on manpower needs are badly needed—it is only fair to the students that they have a better idea of what they may be facing. It is a responsibility for this Council and other professional societies, and I must say that monitoring efforts of the Council with ETS over the last several has been extremely valuable. Enrollment and labor market predictions are always going to be risky, but there is no excuse for being ill-informed.

Looking back, the best prediction I ever made was in the first article I wrote on the subject in 1964. The conclusion read: "1970 will be a good year by which to have attained tenure."

Concurrent Workshops

Thursday, December 5, 1974, 2 30 p.m.

THE ADMINISTRATION OF GRADUATE SCHOOLS FOR NEW (AND NOT SO NEW) GRADUATE DEANS

Moderator: Margaret N. Perry
Geroge W. Kunze, *Texas A&M University*
George E. Hay, *University of Michigan*

Automated Graduate Student Record System at Texas A&M University

George W. Kunze

The American system of graduate education boasts of tailored programs of study designed to meet the objectives and needs of the individual student. This is generally conceded to be a strong and desirable feature of the graduate programs in American universities, but it results in a monumental recordkeeping chore for one or more offices of the university. In a centralized system, this onerous task is normally performed by the office of the graduate dean. In some of the larger universities with a decentralized administrative system, the workload is distributed over a broader base.

Regardless of the system of administration adopted by the institution, the size, complexity and cost of present-day graduate programs requires an expeditious and economical means of maintaining rapidly retrievable records from the admission of the student to his graduation. Such a system of record keeping is necessary for effective program management at all levels in the university and for the preparation and implementation of plans for graduate education. Reports generated are also of great assistance in responding to the numerous questionnaires submitted to the office of the graduate dean or his counterpart by federal, state and private agencies, all of which have vital interests and concerns relating to graduate education.

Texas A&M University has developed and currently is operating an automated graduate student record system that serves a majority of these needs. The tables and figures that follow illustrate the type of information provided by the system.

This paper describes an automated graduate student record system which has been developed at Texas A&M University. The use of this system has increased greatly the ability of the Graduate College to effectively monitor and manage a relatively large and growing graduate program. The use of a similar system by other universities is highly recommended.

STUDENT UNIFORM RECORD CARD

Spring 1969

TEXAS A&M UNIVERSITY
OFFICE OF DEAN OF ADMISSIONS AND RECORDS
Admissions Office Copy

January 20, 1969
(Date)

Dept. Abbreviation
Engl.
Serial Security No.
557 - 34 - 2094
Permanent No.
690331

English

Department

The individual named below has applied for admission to the Graduate College. Please make your recommendation below on the attached transcript and forward records to Dr. George W. Kunze, Dean of the Graduate College.

Student's name: Dillon, Martin James

Proposed degree: Ph.D.

Address: 405 W. Baker, Bryan, Texas

Major: English

Minor: Psychology

Grade point ratio or numerical average, last two undergraduate years:

OR

Grade point ratio, graduate work: 3.40

GRE: 700

650

Verbal

Quant.

Advanced Test Score

/ TOEFL:

Total Score

TO BE COMPLETED BY MAJOR DEPARTMENT

(Any deficiency shown will be indicated on letter of acceptance to student:)

Deficiencies:

☒ Recommend full admission

☐ Recommend provisional admission

☐ Recommend admission as a
special graduate student

☐ Recommend admission be denied

☐ Recommend delaying of application
until

Check here if applicant from abroad has been offered
financial assistance (for visa purposes only)

assistantship

fellowship

wages

other

Other recommendations or comments:

Date: 2/2/69

Department: English

Signed: *D. F. Hile*

TO BE COMPLETED BY DEAN OF GRADUATE COLLEGE

Other recommendations or comments:

Date: 2/3/69

Signed: *George W. Kunze*

Dean of Graduate College

THIS FIGURE ILLUSTRATES ONE OF THE SHEETS COMPRISING THE FOUR
PAGE, COLOR CODED APPLICATION ANALYSIS FORM.

TEXAS A&M UNIVERSITY
OFFICE OF DEAN OF ADMISSIONS AND RECORDS
DPC Copy

Spring 1969

Dept. Abbreviation
Engl.

Social Security No.
557-34-2094

Permanent No.
690331

January 20, 1969
(Date)

English

Department

The individual named below has applied for admission to the Graduate College. Please make your recommendation below on the attached transcript and forward records to Dr. George W. Kunze, Dean of the Graduate College.

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OR

Grade point ratio, graduate work: 3.40

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650

/ TOEFL:

Verbal

Quant.

Advanced Test Score

Total Score

TO BE COMPLETED BY MAJOR DEPARTMENT

(Any deficiency shown will be indicated on letter of acceptance to student.)

Deficiencies:

☒ Recommend full admission

Check here if applicant from abroad has been offered financial assistance (for visa purposes only)

☐ Recommend provisional admission

☐ assistantship

☐ Recommend admission as a special graduate student

☐ fellowship

☐ Recommend admission be denied

☐ wages

☐ Recommend delaying of application until

☐ other

Other recommendations or comments:

Date: 2/2/69

Department: English

Signed: D. E. H. H.

TO BE COMPLETED BY DEAN OF GRADUATE COLLEGE

Other recommendations or comments:

Date: 2/3/69

Signed: George W. Kunze

Dean of Graduate College

Perm. No.
690331

Dept.
ENGL
Name of Student
DILLON, M.

Degree Sought
PHD
State Code
044

Entering GPR	Latest GRE Scores				First GRE Scores				TOEFL	Adm. Status	Date
	Verbal	Quant.	Adv. Code	Adv. Score	Verbal	Quant.	Adv. Code	Adv. Score			
3400					700	650				F	0269
31	34	37	39	62	65	68	70	73	76	77	

CODE SHEET FOR THE APPLICATION ANALYSIS FORM.

REPORT OF ADMISSIONS AND DENIALS
FOR THE PERIOD 09-69 TO 07-70

BICH DEPT - COLLEGE OF AGRICULTURE

NAME OF STUDENT	DEGREE SOUGHT	GPR	GRE VERB	SCORES QUANT	TOTAL	TOEFL SCORE	ADM STAT	STATE CODE	DATE
A	M S	2.73	440	660	1080		P	043	1089
B	PHD	2.78	340	570	910		P	014	0870
C	M S	2.87	300	570	870		D	031	0370
D	M S	3.29	510	610	1120		F	044	0870
E	M S	2.94	610	720	1330		F	033	0770
F	M S	2.87	510	660	1160		S	044	1169
G	PHD		310	560	860	552	D	061	0270

REPORT OF ADMISSIONS AND DENIALS
FOR THE PERIOD 09-69 TO 07-70

SUMMARY - COLLEGE OF AGRICULTURE

***** A C C E P T E D ***** D E N I E D

DEPT	NUMBER APPLIED	F U L L			P R O V I S I O N A L			S P E C I A L			D E N I E D		
		NO.	PCT	AVG GRE	NO.	PCT	AVG GRE	NO.	PCT	AVG GRE	NO.	PCT	AVG GRE
AGEC	32	8	25	1150	20	63	1088	2	6	945	2	6	875
AGED	26	1	4	1030	24	92	869	1	4	790			
AGEN	14	1	7	1280	11	79	1141	1	7	910	1	7	740
ANSC	92	6	7	1085	66	72	964	7	8	871	13	14	876
BICH	22	5	23	1196	12	55	993	2	9	1165	3	14	847
TOTAL	379	47	12	1129	272	72	1001	27	7	877	33	9	849

ADMISSIONS AND DENIALS REPORT SHOWING (A) APPLICANTS THAT HAVE
APPLIED TO THE DEPARTMENT OF BIOCHEMISTRY AND (B) DEPARTMENTAL
SUMMARIES WITHIN THE COLLEGE OF AGRICULTURE.

REPORT OF ADMISSIONS AND DENIALS
FOR THE PERIOD 06-68 TO 08-69

UNIVERSITY SUMMARY

* * * A C C E P T E D * * *															D E N I E D		
COLLEGE	NUMBER APPLIED	F U L L			P R O V I S I O N A L			S P E C I A L			NO.	PCT	AVE GRE				
		NO.	PCT	AVE GRE	NO.	PCT	AVE GRE	NO.	PCT	AVE GRE							
AGRICULTURE	431	109	25	1127	242	56	972	46	11	875	34	8	828				
ENGINEERING	490	134	27	1198	285	58	1088	36	7	1060	35	7	860				
GEOSCIENCES	192	69	26	1199	84	44	1153	13	7	1022	46	24	1094				
BUS. ADMIN.	171	25	15	1162	88	51	1089				58	34	919				
LIBERAL ARTS	179	67	37	1147	92	51	1059	10	6	969	10	6	868				
SCIENCE	244	73	28	1183	128	48	1123	29	11	991	34	13	928				
VET. MED.	45	14	31	1075	24	53	1007	1	2	980	6	13	834				
EDUCATION	329	68	21	1113	210	64	939	21	6	864	90	9	718				
ARCHITECTURE	75	14	19	1186	40	53	977	21	28	902							
TOTAL	2174	593	25	1168	1193	55	1041	177	8	938	263	12	902				

ADMISSIONS AND DENIALS REPORT SHOWING COLLEGE SUMMARIES WITHIN
THE UNIVERSITY.

GRADUATE COLLEGE
GRADE POINT RATIO REPORT
FALL SEMESTER 1970
RUN DATE 01-22-71

M E DEPT

NAME OF STUDENT	CLASS	MAJOR	DEGREE PROGRAM RECORDED	GPR HOURS	GPR	INC HOURS	MAJOR PROFESSOR	FIRST REG
1	8	ME	N	12	2.25	3		0970
2	8	ME	N	18	2.81	7		0870
3	7	ME	N	13	2.89			0870
4	7	ME	N	27	2.83	4		0270
5	8	ME	Y	36	3.54		WINGREN ROY M	0888
6	8	ME	Y	45	3.13		HOLDREDGE E S	0853
7	8	ME	Y	57	3.67		SIMMANG C M	0867
8	7G	ME	Y	29	3.34		BOYCE MEHERWAN P	0869
9	7	ME	Y	19	3.16		BOYCE MEHERWAN P	0870
10	8	ME	Y	41	3.85		THOMPSON J GEORGE H	0869
11	8	ME	Y	29	3.86		KOZIK T J	0867
12	8	ME	Y	42	3.80		KETTLEBOROUGH C F	0267
13	7	ME	Y	10	3.20		NOYES T A	0870
14	7G	ME	Y	31	3.13		BOYCE MEHERWAN P	0270
15	7	ME	Y	19	3.84		HOLM F W	0270
16	7	ME	Y	16	4.00		BOYCE MEHERWAN P	0870
17	7	ME	Y	12	3.33		NEWELL PAUL H JR	
18	7	ME	N	17	3.78			0870
19	8	ME	Y	40	4.00		WINGREN R M	0888
20	7	ME	Y	27	3.56		NEWELL PAUL H JR	0270
21	8	ME	N	18	3.61		THORNTON H R	0869
22	7	ME	Y	28	3.43	8	BOYCE MEHERWAN P	0886
23	8	ME	Y	40	4.00		KETTLEBOROUGH C F	0788
24	7	ME	Y	12	3.67		SWEET HARRY J	0270
25	8	ME	Y	40	3.73		THORNTON HUBERT R	0888
26	7	ME	N	14	3.79			0870
27	8	ME	Y	36	3.11		WINGREN ROY M	0760
28	7	ME	Y	26	3.69		THOMPSON J GEORGE H	0869
29	7	ME	Y	15	4.00		BARBEE DANIEL G	0270
30	7G	ME	Y	26	3.00		CADESS J H	0266
31	8	ME	N	11	4.00			0870
32	8	ME	Y	40	4.00		KETTLEBOROUGH C F	0867
33	8	ME	Y	25	3.64		KETTLEBOROUGH C F	0789
34	7	ME	Y	22	3.55		RODENBERGER CHARLES A	0870
35	7G	ME	Y	36	3.58		RAO BALUSU M	0868
36	7	ME	Y	28	3.29	4	PERRY JOHN V	0267
37	7G	ME	Y	38	3.89		PERRY JOHN V JR	0868
38	8	ME	N	17	4.00		SIMMANG C M	0770
39	8	ME	Y	44	3.86		KOZIK THOMAS J	0867
40	7G	ME	Y	38	3.58		HOLDREDGE EDWIN S	0867
41	8	ME	Y	34	3.88		SIMMANG CLIFFORD MAX	0860
42	7	ME	Y	22	3.50		WEINER PETER D	0868
43	8	ME	Y	46	3.61		WINGREN R M	0888
44	7G	ME	Y	20	3.70		KETTLEBOROUGH C J	0266

GRADE POINT RATIO REPORT PRODUCED PRIOR TO THE
BEGINNING OF EACH ACADEMIC TERM

CURRENT ENROLLMENT STATUS REPORT
BY CLASSIFICATION
SPRING SEMESTER 1970 RUN DATE 02-24-70

BICH

NAME	CLASS	PERM. NO.	SCHED. NO.	NO. OF HRS.	FINANCIAL SUPPORT
1	7		06424	16	FELLOWSHIP
2	7		08563	12	ASST - TEACH
3	7		00303	12	ASST - TEACH
4	7		12613	4	FULL TIME STAFF
5	7		07205	16	FELLOWSHIP
6	7		12400	12	ASST - TEACH
7	7		10585	15	OTHER
8	7		08588	12	ASST - TEACH
9	7		11022	12	ASST - RES
10	8		12550	4	OTHER
11	8		07080	2	FULL TIME STAFF
12	8		10283	12	ASST - RES
13	8		11513		OTHER
14	8		04503	16	OTHER
15	8		07444	16	TRAINEESHIP
16	8		07461	16	FELLOWSHIP
17	8		07462	16	FELLOWSHIP
18	8		07586	12	ASST - TEACH
19	8		12086	12	ASST - TEACH
20	8		01774	4	FULL TIME STAFF
21	8		00527	7	ASST - TEACH
22	8		02080	12	OTHER
23	8		08132	16	FELLOWSHIP
24	8		08196	4	FULL TIME STAFF
25	8		00693	16	FELLOWSHIP
26	8		05723	12	ASST - TEACH
27	8		08775	16	FELLOWSHIP
28	8		00084	12	ASST - TEACH

A LISTING OF THE GRADUATE STUDENTS IN THE DEPARTMENT OF BIOCHEMISTRY SHOWING (A) THEIR CLASSIFICATION, (B) THE SEMESTER HOURS FOR WHICH EACH STUDENT IS ENROLLED AND (C) THE TYPE OF FINANCIAL SUPPORT AWARDED EACH STUDENT.

GRADUATE STUDENT DATA RECORD
RUN DATE 88-17-71

STUDENTS NAMES PERM SEC SEC DEGR PROG LANG PREL HRS COMP HRS REM ADM CARD CURR GPR RES ORAD
OR

COMMITTEE CHAIRMAN ACAD DATE ADM EXP FIRST LAST
DEGREE CLASS MAJOR DEPT ADM STATUS GRAD RES RSG
M CS 7 C S 1 EN 8870 P 0271 0271

THESIS OR DISSERTATION TITLE

LOCAL MAILING ADDRESS

ST APT COLL STA TER 77840

****COURSES ON DEGREE PROGRAM****

****COURSES NOT ON DEGREE PROGRAM****

1 EN 880 04 271 1 EN 841 04 271 1 EN 840 03 271

1 EN 881 01 271

LOCAL RESIDENCE ADDRESS

ST APT COLL STA TER 77840

CORN ROOM PHONE

PERMANENT ADDRESS

STEPHENVILLE TEXAS 75401

BIRTH DATE SEX MAR STATE U.S. CITIZEN OR MAJOR
CODE CT FOREIGN COUNTRY CLASS
101166 M M 044 Y

SELECTIVE SERVICE

NUMBER CLASS BOARD NUMBER
88 41

SELECTIVE SERVICE BOARD ADDRESS

STATE BANK BLDG RM 213

ENTERING FIRST GRE SCORES LAST GRE SCORES
GPR TOEFL VEL GWT ADV VEL GWT ADV
3.46 620 700 -

*****PREVIOUS DEGREES*****

LEV DEGREE MAJOR INSTITUTION DATE

GRADUATE STUDENT DATA RECORD REPORT PRODUCED EARLY DURING THE FIRST SEMESTER OF SUMMER TERM THAT THE STUDENT IS ENROLLED.

TEXAS A&M UNIVERSITY
THE GRADUATE COLLEGE
(To Be Typed)

G. C. Form 1

610624

COARSES DEGREE

Form No.

COMMITTEE CHAIRMAN, LAST NAME FIRST

Dillon, Martin James Department English October 2, 1969

TO THE DEAN OF GRADUATE STUDIES

Having received the following previous degrees:
Bachelor of Arts May 1966 English Northeast North Carolina State College of Humanities
Master of Arts August 1968 English Central State University

I submit below for the approval of the Graduate Council my complete record of study leading to the degree of Doctor of Philosophy major subject English

for which I anticipate qualifying on January 1972

Dept. Code	Course No.	Course Title	Credit Hours	Grade
Engl.	603	Bibliography and Lit. Research	3	A
Engl.	613	Studies in the Renaissance	3	B
Engl.	617	Studies in the Eighteenth Century the Age of Johnson	3	A
Engl.	641	Studies in the English Novel	3	
Engl.	647	Studies in Modern British Drama	3	
Engl.	661	Analysis of Composition	3	
Engl.	675	Studies in American Literature The Wilder Area	3	
Engl.	677	Studies in American Poetry	3	
Engl.	682	Theory and Practice of Literary Criticism	3	A
Engl.	6206	Shakespeare	3	B
Engl.	6216	Milton	3	
Engl.	6126	Middle English	3	
Engl.	685	Problems	3	
Engl.	691	Research	10	
* Transferred from Clemson University. Transcript on file with Registrar, TAMU. To be taken at Augustana University.				
Psy.	603	Motivation and Cognitive Processes	3	
Psy.	606	Personality and Social Behavior	3	
Psy.	634	Principles of Human Development	3	
Psy.	685	Problems	3	
Total hours listed for credit			72	
Total hours listed for credit				
PREREQUISITES (If OTHER (Y/N) (N) Not applicable for Graduate credit)				
Engl. 350 (Med. Lit.), Engl. 620 (The Novel in English) Languages. Option 2--French and Geography 601 (Economic Geography) and Geography 620 (Man and Nature)				

Approved: Recommended
O. E. Drake (Engl.)
Martin James Dillon
405 N. Baker, Bryan, Texas
77801
D. Denner (Engl.)
D. F. Marie (Engl.)
10/10/69

THIS FIGURE ILLUSTRATES ONE OF THE SHEETS COMPRISING THE FIVE PAGE, COLOR CODED DEGREE PROGRAM FORM.

G. C. Parnell

English

October 2, 1969

—Davidson's *Wonders*

Previous Degrees, To Be Coded At Bottom Of Sheet

Bachelor of Arts

May 1966

English

Northeast North Carolina

State College of Humanities

Figure 10

1968

11/18

Central State University

Doctor of Philosophy

English

Diagram: *Revised*

Keywords: social support; coping strategies; depression

January 1972

19		20		21		22		23		24		
Class	Stage	Class No.	Course Title	Credits	Grade	Class	Stage	Class No.	Course Title	Credits	Grade	
A	C	1	ENGL	603	Bibliography and Lit. Research	3				965		
A	C	2	Engl.	613	Studies in the Renaissance	3				966	B	
A	C	2	Engl.	617	Studies in the Eighteenth Century							
A	C	2			the Age of Johnson	3						
A	C	2	Engl.	641	Studies in the English Novel	3						
A	C	2	Engl.	647	Studies in Modern British Drama	3						
A	C	2	ENGL	661	Analysis of Composition	3						
A	C	2	Engl.	675	Studies in American Literature							
A	C	2			The Gilded Age							
A	C	2	Engl.	677	Studies in American Poetry	3						
A	C	2	Engl.	683	Theory and Practice of Literary Criticism							
A	C	2	*Engl.	688	Shakespeare	3					A	
A	C	2	*Engl.	620	Milton	3					B	
A	C	2	**Engl.	515g	Middle English	3						
A	C	2	ENGL	685	Problems	6						
A	C	2	ENGL	691	Research	18						
A	C	2	*	Transferred from Clossen University, transcript on file with Registrar, TAMU								
A	C	2	**	To be taken at Augustana University								
A	C	2										
A	C	2										
A	C	2										
A	C	2	PSY	604	Motivation and Cognitive Processes	3						
A	C	2		606	Personality and Social Behavior	3						
A	C	2		634	Principles of human Development	3						
A	C	2	↓	685	Problems	3						
A	C	2		Total hours listed for credit							72	
PREREQUISITES Not to be transcribed Engl. 350 (Modn. Lit.), Engl. 428 (The Novel in English) Languages: French and Geography 501 Geography and Geography 520 (Man and Nature)												

Morton E. Rinke (Engl.)
D. Renner (Engl.)

D. F. Marble.
D. F. Marble (Engl.)

Martin James Dillon
405 N. Baker, Bryan, Texas 77801

E. C. Clyn (Pay.)

Walter Gilbury (P)
400 x 250 x 10/12/11

FOR OFFICIAL USE ONLY

10 12 14 16 18
(C) 3 B A I E N G L O 5 6 6 N E N C A R O L I N A S T

MA 2 ENGL 068 CENTRAL ST UNIV

CODE SHEET FOR THE DEGREE PROGRAM FORM.

GRADUATE STUDENT TRANSCRIPT -- (Student's Name Deleted)
RUN DATE 08-18-71

PERM	SOC. SEC.			COLL STA TEX 77840
		COMMITTEE CHAIRMAN		CARTER G F

DEGREE SOUGHT	CLASS	MAJOR	ACAD DEPT	DATE ADM	ADM STATUS	EXP GRAD	FIRST REG	LAST REG
PHD	B	GEOG	GEOG	1000	F		0268	0671

DEGR PROG	LANG	RCH PRO	PREL	HRS COMP	HRS REM	ADM CAND	CURR GRP	RES REQ	GRAD DATE
Y	Y	Y		50	17		4.00		

* * * COURSES ON DEGREE PROGRAM * * *

AGRO 301 04 271 A	GEOG 435 03	GEOG 485 03 970 A
GEOG 485 03 271 A	GEOG 606 03	GEOG 607 03 270 A
GEOG 610 03 969 A	GEOG 620 03 270 A	GEOG 630 03
GEOG 641 03 969 A	GEOG 685 03 969 A	GEOG 691 02
GEOG 691 04 969 S	GEOG 691 03 270 S	GEOG 691 03 970 S
GEOG 691 03 271 S	GEOG 691 06 671	MET 324 03 970 A
R P 636 03 271 A	TRAN 477 03 268 A	TRAN 560 03 269 A

* * COURSES NOT ON DEGREE PROGRAM * *

GEOG 685 03 270 A	GEOG 685 03 970 A
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GRADUATE STUDENT TRANSCRIPT REPORT PRODUCED EACH SEMESTER OR SUMMER TERM FOLLOWING THE FIRST SEMESTER OR SUMMER TERM.
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(Student's Name Deleted)

RUN DATE 06-23-70

STUDENTS NAME _____

PEARSON SOC. SCI.

[illegible]

(Student's Name Deleted)

COMMITTEE CHAIRMAN GERMAN, J P

THESS OR DISSERTATION TITLE

THE INPUT IMPEDANCE OF A GROUND-MATCHED DIPOLE ANTENNA

NAME	CLASS	NUMBER	DATE	TIME	PERIOD	TIME	DATE
PHO	B	22	22	0344	P	0330	0330

LOCAL MAILING ADDRESS

214 COLA STD 98X 77940

LOCAL RESIDENCE ADDRESS

APT 214 COLL STA TEL 77040

DATE **NAME** **PAGE**

6-67-68

PERMANENT ADDRESS

DOLLARS TEN 73-001

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SELECTIVE SERVICE BOARD ADDRESS

1 MAIN STREET NEWTON 770

UNIT NO	TYPE	FIRST UNIT ADDRESS	LAST UNIT ADDRESS
NO		VAL	VAL
L-75		420 576	59-510

••• P R E V I O U S D I G R E S S •••

LEV	GRADE	MAJOR	INSTITUTION	DATE
1	0 3	0 8	TENNESSEE A&M UNIV	03-60
2	0 3	2 8	TENNESSEE A&M UNIV	03-60

GRADUATE STUDENT DATA RECORD REPORT PRODUCED AFTER ALL DEGREE REQUIREMENTS HAVE BEEN COMPLETED.

DEGREE PLANS NEEDED
08 05 70

NAME	PERM NO.	SOC. SEC.	DEGREE SOUGHT	ACAD DEPT	MAJOR
A			M S	AERO	7AERO
B			M ENGR	AERO	7AERO
C			M S	AERO	7AERO

STATUS CHANGED FROM INACTIVE TO ACTIVE
08 05 70

NAME	PERM NO.	SOC. SEC.	DEGREE SOUGHT	ACAD DEPT	MAJOR
A			PHD	ECON	8ECON
C			PHD	SCS	8PSS
C			M A	ENGL	7ENGL

OUTDATED ADMISSIONS
08 05 70

NAME	PERM NO.	SOC. SEC.	DEGREE SOUGHT	ACAD DEPT	MAJOR	DATE ADM
A			M S	GEOP	GEOP	0665
B			PHD	PHYS	PHYS	0665
C			M S	I EN	I EN	0665

STATUS CHANGED FROM NEW ADMISSIONS TO ACTIVE
08 05 70

NAME	PERM NO.	SOC. SEC.	DEGREE SOUGHT	ACAD DEPT	MAJOR
A			M S	I EN	7I EN
B			PHD	MATH	7MATH
C			M UP	URPL	7URPL

EXAMPLES OF EXCEPTION REPORTS WHICH ARE PRODUCED BY THE SYSTEM.

GRADUATE STUDENT SUMMARY REPORT
CLASSIFICATION WITHIN COLLEGE
FIRST SUMMER SESSION 1970
RUN DATE 06-22-70

UNIVERSITY SUMMARY

COLLEGE	4	5	6	7	8	9	7G	8G	TOTAL
AGRICULTURE									
NO. OF STUDENTS	13		39	226	232	5			515
AVG. NO. OF HOURS	4.77		5.36	4.51	4.40	5.60			4.54
NO. OF FTE STUDENTS	15.50		52.25	255.00	255.25	7.00			585.00
FTE/STUDENT RATIO	1.19		1.34	1.13	1.10	1.40			1.14
EDUCATION									
NO. OF STUDENTS	4		366	218	175	4			767
AVG. NO. OF HOURS	5.25		5.19	5.34	4.81	5.50			5.15
NO. OF FTE STUDENTS	5.25		475.00	291.00	210.50	5.50			987.25
FTE/STUDENT RATIO	1.31		1.30	1.33	1.20	1.38			1.29
ENGINEERING									
NO. OF STUDENTS	30		20	221	120	5			396
AVG. NO. OF HOURS	4.33		4.30	4.90	4.48	4.40			4.69
NO. OF FTE STUDENTS	32.50		21.50	270.75	134.25	5.50			464.50
FTE/STUDENT RATIO	1.08		1.08	1.23	1.12	1.10			1.17
LIBERAL ARTS									
NO. OF STUDENTS	8		23	81	57	1			170
AVG. NO. OF HOURS	4.38		4.83	4.70	5.19	7.00			4.88
NO. OF FTE STUDENTS	8.75		27.75	96.25	74.00	1.75			207.50
FTE/STUDENT RATIO	1.09		1.21	1.18	1.30	1.75			1.22
SCIENCE									
NO. OF STUDENTS	13		27	114	179	2			335
AVG. NO. OF HOURS	4.23		6.11	4.61	4.64	1.00			4.71
NO. OF FTE STUDENTS	13.75		41.25	131.25	207.50	0.50			394.25
FTE/STUDENT RATIO	1.06		1.53	1.15	1.16	0.25			1.18
VETERINARY MEDICINE									
NO. OF STUDENTS			4	24	10				38
AVG. NO. OF STUDENTS			2.75	4.13	3.90				3.92
NO. OF FTE STUDENTS			2.75	24.75	9.75				37.25
FTE/STUDENT RATIO			0.69	1.03	0.98				0.98
UNIVERSITY TOTALS									
NO. OF STUDENTS	98		569	1051	836	20			2574
AVG. NO. OF HOURS	4.61		5.25	4.86	4.61	4.80			4.86
NO. OF FTE STUDENTS	113.00		747.25	1278.00	962.50	24.00			3124.75
FTE/STUDENT RATIO	1.15		1.31	1.22	1.15	1.20			1.21

UNIVERSITY SUMMARY BY COLLEGES FOR THE FIRST SUMMER TERM, 1970.

LEGEND: NO. OF STUDENTS - THE NUMBER OF STUDENTS ENROLLED BY CLASSIFICATION.
AVG. NO. OF HOURS - AVERAGE NUMBER OF SEMESTER HOURS FOR WHICH STUDENTS ARE ENROLLED.
NO. OF FTE STUDENTS - NUMBER OF FULL-TIME-EQUIVALENT STUDENTS (A STUDENT ENROLLED FOR 4 HOURS DURING A SUMMER TERM IS CONSIDERED A FULL-TIME STUDENT).
FTE/STUDENT RATIO - FULL-TIME-EQUIVALENT STUDENTS DIVIDED BY THE ACTUAL NUMBER OF STUDENTS.

GRADUATE STUDENT SUMMARY REPORT
CLASSIFICATION WITHIN COLLEGE
FIRST SUMMER SESSION 1970
RUN DATE 06-22-70

COLLEGE - SCIENCE

DEPT	4	5	6	7	8	9	7G	8G	TOTAL
BIOL									
NO. OF STUDENTS			6	16	50	1			73
AVG. NO. OF HOURS			5.50	3.88	4.16	2.00			4.18
NO. OF FTE STUDENTS			8.25	15.50	52.00	0.50			76.25
FTE/STUDENT RATIO			1.38	0.97	1.04	0.50			1.04
CHEM									
NO. OF STUDENTS	4			55	64				123
AVG. NO. OF HOURS	4.00			4.96	5.13				5.02
NO. OF FTE STUDENTS	4.00			68.25	82.00				154.25
FTE/STUDENT RATIO	1.00			1.24	1.28				1.25
MATH									
NO. OF STUDENTS	1		5	16	5				27
AVG. NO. OF HOURS	5.00		5.40	4.06	5.60				4.46
NO. OF FTE STUDENTS	1.25		6.75	16.25	7.00				31.25
FTE/STUDENT RATIO	1.25		1.35	1.02	1.40				1.12
PHYS									
NO. OF STUDENTS	8		16	15	33				72
AVG. NO. OF HOURS	4.25		6.56	5.00	4.70				5.13
NO. OF FTE STUDENTS	8.50		26.25	18.75	38.75				92.25
FTE/STUDENT RATIO	1.06		1.64	1.25	1.17				1.28
STAT									
NO. OF STUDENTS				12	27				39
AVG. NO. OF HOURS				4.17	4.11				4.13
NO. OF FTE STUDENTS				12.50	27.75				40.25
FTE/STUDENT RATIO				1.04	1.03				1.03
COLLEGE TOTALS									
NO. OF STUDENTS	13		27	114	179	2			335
AVG. NO. OF HOURS	4.23		6.11	4.61	4.64	1.00			4.71
NO. OF FTE STUDENTS	13.75		41.25	131.25	207.50	0.50			394.25
FTE/STUDENT RATIO	1.06		1.53	1.15	1.16	0.25			1.18

COLLEGE SUMMARY BY DEPARTMENTS FOR THE FIRST SUMMER TERM, 1970.

LEGEND: NO. OF STUDENTS - THE NUMBER OF STUDENTS ENROLLED BY CLASSIFICATION.
AVG. NO. OF HOURS - AVERAGE NUMBER OF SEMESTER HOURS FOR WHICH STUDENTS ARE ENROLLED.
NO. OF FTE STUDENTS - NUMBER OF FULL-TIME-EQUIVALENT STUDENTS (A STUDENT ENROLLED FOR 4 HOURS DURING A SUMMER TERM IS CONSIDERED AS A FULL-TIME STUDENT).
FTE/STUDENT RATIO - FULL-TIME-EQUIVALENT STUDENTS DIVIDED BY THE ACTUAL NUMBER OF STUDENTS.

NEW STUDENT REPORT
 SPRING SEMESTER 1971
 RUN DATE 02-16-71

COLLEGE OF SCIENCE

DEPT	4	6	7	8	9	TOTAL
BIOL			4		3	7
CHEM		1	5			6
MATH			1	1		2
PHYS		2	3			5
STAT			1	4		5
COLLEGE TOTALS		3	14	5	3	25

NEW STUDENT REPORT
 SPRING SEMESTER 1971
 RUN DATE 02-16-71

UNIVERSITY SUMMARY

COLLEGE	4	6	7	8	9	TOTAL
AGRICULTURE	8	6	41	13	9	77
ARCHITECTURE	8	2	7	2	2	21
BUSINESS ADMINISTRATION	4		13		2	19
EDUCATION	4	1	25	8	1	39
ENGINEERING	9	1	71	4	5	90
GEOSCIENCES	4	1	7	5	1	18
LIBERAL ARTS	7	3	5	4		19
SCIENCE		3	14	5	3	25
VETERINARY MEDICINE			1	1		2
UNKNOWN	7		2	2		11
UNIVERSITY TOTALS	51	17	186	44	23	321

**NEW STUDENT REPORT PRODUCED AFTER THE 4TH
 CLASS DAY DURING EACH SIX-WEEK SUMMER TERM
 AND AFTER THE 12TH CLASS DAY DURING THE
 REGULAR SEMESTER**

CREDIT HOUR DISTRIBUTION REPORT
 SPRING SEMESTER 1971
 RUN DATE 02-16-71

COLLEGE	CLASS	0 HRS	1 HR	2 HRS	3 HRS	4 HRS	5 HRS	6 HRS	7 HRS	8 HRS	9 HRS	10 HRS	11 HRS	12 HRS	OVER 12	TOTAL
AGRICULTURE	4				1											9
	6				108	2		18			1	1	4	13	18	161
	7	11	3	4	57	32	2	11	1	1	1	3	5	113	90	336
	8	10	1	1	6	56		5	1	3	3	3		100	76	286
	9				1						3			7	5	10
	TOTAL	21	4	5	171	90	2	34	2	4	8	7	10	233	194	788
EDUCATION	4				1		1	1							1	4
	6	1		11	118	14	28	22	2	1	5	2	1	4	8	215
	7	3		1	69	14	3	21	5	1	11	2	1	22	53	208
	8	8	3		38	76	1	17	6	1	6	4	1	33	62	257
	9				1										1	2
	TOTAL	12	3	12	228	104	31	61	13	3	22	8	3	60	125	684
ENGINEERING	4					1								2	7	10
	6	1	1		7	2				1	1			2	10	25
	7	21	2	3	9	20		4	1	6	1	5	40	83	137	332
	8	2			6	37		4	4	2	1	3	3	48	57	186
	9													3	4	7
	TOTAL	24	3	3	22	60		8	5	9	3	8	43	136	215	538
SCIENCE	4													2	1	3
	6			2	12	8	2	1	1		1			5	5	37
	7		1		11	8		1	1	1	4	1	5	72	44	140
	8	8		1	7	33		2		1	6			67	77	222
	9													2	1	3
	TOTAL	8	1	3	30	48	2	4	2	2	11	1	5	168	128	414
VETERINARY MEDICINE	5				1											1
	7	2	4	1	1	13		1	3					10	7	42
	8	1			2	5				1					12	21
	TOTAL	3	4	1	3	18		1	3	1				10	19	64
UNIVERSITY TOTALS	4				2	1	1	4			2		2	8	37	57
	6	8	1	14	281	33	28	47	4	3	9	5	7	36	87	562
	7	47	11	9	188	112	5	84	13	13	31	17	63	425	488	1446
	8	34	4	2	76	236	1	41	13	10	19	11	7	312	347	1113
	9				2						1		1	17	19	36
	TOTAL	89	16	25	527	382	36	166	30	28	62	33	80	797	956	3213

CREDIT HOUR DISTRIBUTION REPORT PRODUCED AFTER THE 4TH
 CLASS DAY DURING EACH SIX-WEEK SUMMER TERM AND AFTER THE
 12TH CLASS DAY DURING THE REGULAR SEMESTER

GRADUATE STUDENT FINANCIAL SUPPORT

Run Date 11-12-74

Chemistry Department - College of Science

Name of Student	Class	Major	Hrs. Reg.	GPR	U.S. Citizen	Social Security #	Type of Support	Account Number	Account Name	Total Dollars Budgeted	Monthly Stipend
A	7	Chem	10	4.00	Y	348946644	GAT	02 12520	Chemistry	3,366	374
B	7	Chem	3	3.84	N	558746973	-	-	-	-	-
C	8	Chem	12	3.50	Y	318524619	F&T	02 18910	Graduate College	5,000	417
D	8	Chem	9	3.64	N	360062462	GAR	02 55160	Research Found Spec	3,852	428
E	6	Chem	0	0	Y	451178920	-	-	-	-	-
F	7	Chem	9	3.75	Y	413481374	GANT	02 12520	Chemistry	3,609	401
G	6	Chem	0	0	Y	356605460	Other	02 22226	Cyclotron Oprs	12,180	1,015
H	8	Chem	12	3.74	Y	558765847	F&T	02 55233	Welch	3,609	401

One item that is always pertinent to any system is the one of cost. Anyone contemplating the development of a similar graduate student record system would no doubt wish to estimate the costs associated with the system and evaluate potential cost-benefit ratios.

Costs associated with the system can best be discussed in terms of (1) development costs, and (2) annual operating costs. The development cost is difficult to predict on a general basis, since this cost is dependent upon the situation relative to the automation of student records at any given university. Much development work on the student uniform record system at Texas A&M University preceded the development of the automated graduate student record system. If this work had not already been accomplished, then of course a much greater development effort would have been necessary.

An estimate of the development costs at Texas A&M University for only the graduate student record system is as follows:

Professional Staff	\$20,000
Support Staff	5,000
Computer Costs	10,000
TOTAL	\$35,000

Operating costs for the system for 1973-74, excluding salaries, for an operation involving approximately 3800 graduate students, amounted to \$9,944.87. This figure includes costs for (1) terminal rental, (2) eight hours daily access to the computer (utilizing on-line disk storage), and (3) keypunch and computer time (the terminal rental for 12 months was \$636).

The cost of the terminal operation is justified on the basis of a much more rapid and accurate means for updating records. Corrections and modifications of records and programs may be entered at any time and checked immediately for accuracy, thereby providing greater control of the total operation and also eliminating the present time lag with "batching" the data for periodic keypunching and updating of the computer tape.

The annual cost of operating the system is of a magnitude that warrants careful planning and execution. The system, however, provides program management capabilities that could not be readily acquired by any other means.

Some of the more important capabilities provided by the system are as follows:

1. An accurate record of the applicants for admission and their credentials (organized by departments, colleges and the University).
2. Periodic reports on the academic progress of all active students.
3. Enrollment and course load data (organized by departments, colleges and the university).

4. Financial assistance awarded students (organized by departments, colleges and the university).
5. Exception reports that call attention to existing or potential irregularities.

Much of the information listed above could not be provided at reasonable costs without computer capabilities. With this system, faculty and departmental offices now have in their possession the same current information that is available in the office of the Graduate College.

To date the response to the automated graduate student record system from the faculty and students has been very positive. Unsolicited recommendations to remove students from the roll of the Graduate College because of academic deficiencies have been received in significant numbers by the Dean of the Graduate College since the inception of the system, and such recommendations are considered as testimonials to the system.

Based upon the experience gained in developing the automated graduate student record system at Texas A&M University, the following comments and suggestions are offered to other university administrators who might be considering the development of a computerized graduate student record system:

1. Carefully define the reports that will be needed. The policies and requirements will vary for any given institution and the system should be designed specifically for those needs. Adequate planning is a prerequisite of a good system.
2. An automated overall student record system is a necessary element of the graduate record system. If such a system does not exist, it is recommended that it be developed as a first step.
3. The automated graduate student record system at Texas A&M University is designed to utilize terminals for on-line record updating and information retrieval. While such an operation is very desirable, it is not a prerequisite of the record system. Card input and batch processing techniques were utilized at Texas A&M University before converting to the terminal system.
4. Allow sufficient time for system development. The complete system at Texas A&M University has required approximately five years for planning, development and implementation. It is believed that this time could be greatly reduced for new systems by utilizing the experience of this project; however, do not expect to install such a system overnight.

5. A team effort is required to develop the system. The graduate dean and his staff must work very closely with the systems analyst in implementing the system

Copies of the brochure entitled *Automated Graduate Student Record System* at Texas A&M University, which describes the system completely, may be purchased for \$3.00 a copy from the Texas A&M Bookstore, Texas A&M University, College Station, Texas, 77840.

Student Support

George E. Hay

My understanding is that I should speak on the administration of financial support of graduate students, directing my remarks primarily to the newer graduate deans. The things I shall say here will be based in large measure on my experiences over the past six years in administering the financial support of graduate students at the University of Michigan, though I should say that some of the things I shall mention here will relate to a more idealized situation than I have been able to achieve. Also, I realize that policies and procedures appropriate for one department or institution may not be appropriate for or acceptable by others. The policies and procedures I shall describe here do, I believe, have a general validity. I ask those of you who may disagree to bear with me.

The massive decline in funds in recent years has been widely documented and discussed, and has been described in some detail in earlier sessions of this meeting. I will not describe this decline further, and will only mention that several of the categories of support I shall discuss are in effect adjustments necessitated by this decline.

How to Get People to Read Communications from the Graduate School

This is a primary problem which is not confined to matters pertaining to graduate schools, or to student support. In general, faculty members regard their primary responsibility as lying in the areas of research and teaching, quite rightly, and consequently do not always respond with the desired alacrity to communications from the graduate school. Recently at my institution, the officers of the various doctoral programs were asked to nominate students for awards under a large and lucrative fellowship program. The program involved 100 full fellowships so that the chances of success for the individual nominee were rather high. About 25 percent of the programs failed to respond. Careful timing of the distribution of the invitations to nominate is important. The recipient should not be tempted to

set aside the invitation because the deadline is far removed, and yet should have sufficient time to generate nominations properly. Another device, which is being utilized at the University of Michigan is to advertise all fellowship programs widely, urging students who would like to be nominated to approach their departmental fellowship committee.

Merit vs. Need in Making Awards

This has been a subject of much controversy in recent years. In general, faculty committees and deans function quite effectively in making awards based on merit, even when some minor elements of need enter. However, when need becomes a major factor, all sorts of difficulties arise. Standards of need vary widely, and it is very difficult to obtain an accurate statement of the student's financial situation. There are three national organizations which are prepared to make a scientific study of a student's financial need, based on a machine analysis of an involved form completed by the student and by parents in some cases. If need is given serious consideration in the allocation of student support, it would probably be well to use one of these organizations. They are the American College Testing Service, the College Scholarship Service, and the Graduate and Professional School Financial Aid Service. In general, students, their parents, and faculty are reluctant to become involved in a detailed analysis of student need, particularly in areas where there has been a history of substantial or full support of all graduate students.

Traditionally, American parents seem willing to support their children through undergraduate school, but decline to continue such support into graduate school. Factors which seem to dictate this attitude include the increased level of support necessary in graduate school because the student is often married with dependents, and the fact that the parents of the graduate student are often retired or facing imminent retirement with a substantial drop in income.

I have no solution to recommend here, and can only describe current problems.

Coordination of Applications for Admission and Support

The question here is whether the new student files separate applications for admission and for financial support, or whether a single combined application is used. Both systems have advantages and disadvantages. The single application form reduces the labor involved in completing forms, writing recommendations, generating transcripts, etc. However, the single application form is a source of considerable trouble if, as frequently happens, the student is considered for admission and for support by two different committees.

The Size of a Fellowship Program

In general, if the ratio of the number of awards in a fellowship program to the size of the pool of potential applicants is too small, it is difficult to find satisfactory awardees, and also the administrative costs are out of proportion. In general, even strong students seem reluctant to apply for a fellowship if the prospects of success appear small. If at all possible, small fellowship programs should be combined into a single competition, with a large number of awards. Such an arrangement can be set up to accommodate variations in eligibility.

Graduate Student Assistants

The graduate student assistant is usually an enrolled student who is paid to perform a service involving teaching, research, administration, etc. I should like to comment on two current problems relating to such appointments.

In general, any individual who received a stipend for the performance of a service must pay income tax on that stipend. However, it appears that whenever a student must undergo practical training such as teaching under a teaching assistantship, and whenever similar training is required of all candidates for the same degree, the student may have a claim for exemption of the associated stipend from income tax. Various institutions have worked out with the Internal Revenue Service systems for effecting these tax exemptions. At the University of Michigan we have measured such practical training in terms of work-experience credits, one credit being earned by the equivalent for one full term full time in such training. In general, caution should be exercised in the making of firm statements to graduate student assistants regarding the taxability of their stipends, as in the final analysis, any tax exemption is based upon the willingness of the Internal Revenue Service to overlook the fact that the graduate student assistant does indeed perform a service, there are some signs that the Internal Revenue Service is tightening its position.

Increasingly graduate student assistants are forming unions. One such union was formed several years ago at the University of Wisconsin, and currently the graduate student assistants at the University of Michigan are negotiating a contract. Some likely consequences of the unionization are:

- a. The funds budgeted for graduate student assistants will be paid at higher rates to fewer students. For example, an institution with 2000 students supported through teaching assistantships might find that after unionization the same funding is paid to 1500 teaching assistants; so that the remaining 500 students would have to find other sources of support, or leave school.

- b. Under unionization, the duties of the individual graduate student assistant are likely to be specified quite rigidly. Also, in order to meet financial demands, the institutions may be forced to reduce the funds for the support of other fellowship programs. Both of these will greatly reduce the department's flexibility in establishing its patterns of support for graduate students.
- c. In one sense, the move by graduate student assistants to unionization is not so much a move against the educational institution but rather it is a move by one group of students to secure for itself a larger share of the available funds, at the expense of the other graduate students.

I would like to describe a series of individual support programs which together form an integrated program of support for students entering graduate school with a baccalaureate degree and proceeding through to the doctorate. In most cases, the first year or two of this program should also be appropriate for students proceeding towards a master's degree, whether that degree is terminal or is a step towards the doctorate.

In general, a first year graduate student should not be asked to perform any service which in any way hinders the student in performing well academically. The transition from undergraduate to graduate school is not always easy, and the first year student with a teaching assistantship and no previous experience in teaching might feel obligated to devote extensive amounts of time to teaching, to the detriment of academic performance. It is desirable that as many first year students as possible be provided with full support, consisting of gift aid and perhaps a component of loan. Some schools have a well developed program of such support, with a series of support packages containing decreasing amounts of gift aid and increasing amounts of loan. If a student is offered a package with a loan component, the student will probably utilize any hidden personal financial resources rather than accept the loan, and this will be accomplished without the student and/or parents having to complete the complex forms dealing with financial resources and associated with loans. On the other hand, if the student does accept the loan, then the student will have a chance to demonstrate his or her capabilities for graduate study, at the price of a modest debt.

For the second and third years up to the dissertation stage, the student should be supported primarily through service awards, such as teaching and research assistantships, plus other general merit awards as available. For the dissertation stage, it is desirable that there be a large merit program providing full support. Such awards should favor the better student who has demonstrated an ability to move vigorously through graduate study, and should be for a limited period of one or two years. The existence of such a program encourages students to qualify for such support through strong performance in the earlier years of graduate study, and to move vigorously through the dissertation stage.

I shall mention here a number of programs each designed to fulfill a specific need, all in augmentation of the chronological pattern of support detailed above.

- a. *Grants for New Programs.* In recent years much has been said about the need to create new programs to meet current needs. When a new program is established, funds should be available to recruit strong students into the program with dispatch. When the program officers have not had sufficient time to develop such funds externally, an internal grant to the program officers for the discretionary support of students should serve to get the program off to a good start. At the University of Michigan such awards are made, in amounts of five to ten thousand dollars a year, annually for up to three years.
- b. *Emergency Awards to Students.* A small budget should be available for emergency awards to students who experience an unexpected and unusual emergency.
- c. *Emergency Grants to Programs.* Some programs may deteriorate academically because of a loss of key faculty followed by a deterioration of the student body. Such programs should either be terminated forthwith or should be revived through emergency awards to improve the faculty and to attract strong students. In another situation, a program may find itself with a major problem brought about by an unexpected and massive reduction in its student support funds from external sources. An internal emergency award to such a program, for a year or two in order to assist in adjusting to change, is highly desirable.
- d. *Minority Students.* Most universities and colleges have substantial programs for the support of minority students. Awards under such programs have become a standard part of student support programs everywhere. They vary from institution to institution, and are based mostly on need.
- e. *The Support of Students with Individual Degree Programs.* There has been an increasing trend for students to develop individual degree programs having interdepartmental characteristics, and this trend has been encouraged. Unfortunately, in this period of reduced funds for student support, such students are often excluded from support considerations in contiguous departments. It is essential that a separate fellowship program be developed to serve such students.
- f. *Part-Time Students.* Traditionally the student who must drop out of school for a period to work part-time in order to support a family is disadvantaged in the competition for financial support. In recent years there has been increasing recognition of this group of students, which includes females who have had heavy commitments in the home. A special fellowship program for such students has considerable current import.

- g. *Dissertation Expenses.* The preparation of both masters and doctoral dissertations frequently presents a student with heavy financial expense, involving such things as travel, extended residence in a foreign area, reproduction costs, etc. A financial program to assist in such expenses is highly desirable.
- h. *Travel to Meetings and Placement.* In recent years the job market for degree recipients in some fields has become quite poor. It is desirable that funds be provided to assist them in finding positions. This usually involves travel to professional meetings by the job seeker and by faculty members assigned to assist in the job placement of students.
- i. *Departmental Discretionary Funds.* It is essential that each department or program have a substantial block of discretionary funding, available to make up support packages so that the department or program can maintain a competitive position with peer institutions. This funding could be used, for example, to make up complete fellowships, or to supplement other awards in varying amounts. A major problem arises in establishing acceptable criteria for the distribution of such funds over departments. We have a large program of this type at the University of Michigan. The criterion for allocation when the program was created about ten years ago was the merit of the students in the various programs as measured by the abilities of those students to win the merit awards in other fellowship programs of the graduate school. Since that time a great deal of effort has gone into attempts to modify the program using other criteria including the following: enrollment, number of masters and doctoral degrees awarded, the state of the job market, the size of the teaching faculty, the level of financial support per student, the national prestige of the program, and the academic quality of the students. It has been our experience that it is very difficult to achieve agreement through the democratic process on a distribution of funds on the basis of any of these criteria except the last, i.e., the quality of the students as measured by the ability of those students to earn awards.
- j. *Student Loans.* Loans to graduate students have become a major part of the support picture in graduate schools. At the University of Michigan the total of such loans arranged each year to graduate and professional students is of the order of \$2 million. One program, called the National Defense Student Loan program, involves gifts of capital to institutions, said capital to generate a revolving loan fund through recovery of the loan funds. Other loan programs may use institutional bank or government funds, with a federal guarantee in case the recipient defaults. Such loans require needs tests of the student and sometimes of the student's parents, which are unpopular, the tests being evaluated by one of the three national organizations

devoted to this service and identified earlier in this talk. Generally it takes at least two months to process such a loan. It is advisable that the graduate schools themselves do not become involved directly in the loan process; instead, the institution should have a professional loan office to handle such matters for all students.

The total funds available for the support of graduate students have dropped very substantially in recent years, while the costs and tuition have continued to climb rapidly. The world is in the midst of a period of great change and it is essential that graduate schools, who are dedicated to training students for today and tomorrow, move to change their programs to meet this changing situation. In general, academia exhibits a high level of inertia, and it behooves graduate schools to administer the substantial funds still available to them for the support of graduate students in such a manner as to encourage the needed changes in graduate education.

THE MASTER'S DEGREE AT INSTITUTIONS WITHOUT THE DOCTORATE

Moderator: Dale R. Comstock, *Central Washington State College*
Lon Weber, *Rhode Island College*
Albert H. Yee, *California State University, Long Beach*

Preliminary Results of the Task Force Survey of Master's Institutions

Dale R. Comstock

When Dean Charles Lester wrote last spring suggesting that a task force on the concerns of master's oriented graduate schools be established and that I chair the group, I was reminded of some remarks that I made last year in Williamsburg to the effect that CGS should devote more of its attention to its member insitutions not granting the doctorate. CGS is certainly taking note of this as the program indicates. The recent proceedings of MAGS and WAGS reflect the same increased attention to the master's degree and rightly so. Enrollments at the master's level continue upward significantly. Master's degrees awarded are projected at 328,900 for 1980-81, up from 251,400 in the year 1972-73.¹

But still there are many problems associated with master's degree work and your task force hopes to address them and propose some recommendations for improvement. Dean Lester's charge was that there is a wide range of activities available to us and he hoped that we would range widely. He certainly ranged widely in selecting a task force with members from as far apart as North Carolina, Texas, and the state of Washington. From this geographical distribution you would probably suspect that the task force has not been able to meet until this annual meeting. It met last evening and I will report on the direction of that meeting in a few minutes.

But first, I want to report on an initial survey conducted by the task force this fall. On behalf of the task force, I thank all of you who responded for your cooperation. With the help of John Ryan of the Washington office and the *Graduate Program and Admissions Manual*, the survey was mailed to some 93 institutional member of CGS for which it was thought that the master's degree, but not the doctorate was the highest degree offered. Eleven of these institutions responded with the information that they were doctoral granting institutions. Of the remaining 82 institutions, 47 had responded to our initial survey as of two weeks ago and on which I base this preliminary report. (Eight additional responses had been received, but are not included in this summary.) The 47 institutions included 30 from the public sector and 17 private institutions. Thirty-one of the institutions classified themselves as urban and 16 as rural institutions. Twenty-nine were universities and 18 were colleges. They had a combined total enrollment of 323,676 and a com-

bined graduate school enrollment of 62,700 for the Fall of 1973. During fiscal year 1974, the 47 institutions awarded 15,423 master's degrees.

One segment of the survey addressed itself to enrollment trends. Four high and low enrollment fields at each institution were to be designated and an indication of enrollment trends in each field was solicited. The results were mixed, but some generalizations can be made in a few areas. Thirty different high enrollment areas were listed as diverse as urban planning and folk studies. Significant trends of increase were indicated for such areas as psychology (including counseling), business, and education (including special education). Stable or a slight increase was indicated in English and the various biological sciences. The phenomenal increases in psychology in recent years have been extensive, as many of you have noted, but this trend may be stabilizing or at least the rate of increase may be diminishing. The area of education may also be destined for a turn down in enrollments as the full impact of a declining school age population is experienced. Practice oriented program areas such as urban planning, public administration, health services management, and organizational behavior were mentioned as new programs areas. The master's probably will become even more of an applied degree in the future.

Thirty-six low enrollment fields were designated. The most frequently reported low enrollment areas included history, English, foreign languages, mathematics, chemistry, and physics. Speech and political science were also reported as low enrollment areas, but less frequently than the others cited. The enrollment trend for history, English, foreign languages, and mathematics was slightly downward. Chemistry was evenly divided with the trend towards stable or slightly increased enrollments. Physics exhibited a very definite and strong downward trend. Speech and political science seemed destined for enrollments to remain about the same. You may have noted that English appeared both as a high and as a low enrollment area. Apparently, English is well in some institutions and slightly ill in others.

The next item of the survey asked "What general master's regulations have been substantially modified during the last two or three years?" I was particularly interested in what had recently happened to residence requirements in view of the call for their adaptation to changing student needs in *Scholarship for Society*, the publication of the Panel for Alternate Approaches to Graduate Education, which appeared just about this time a year ago under some controversy. The residence requirement was the most frequently mentioned change and fifteen institutions indicated that such requirements had been eased or eliminated. One institution indicated that residency had been tightened in response to meeting NCATE requirements. Another item frequently mentioned involved easing the transfer of credits. A systemwide transfer policy for the master's has been adopted in some areas. One institution reported that no maximum transfer credit was stipulated, but that at least fifteen hours had to be completed at the institution. Six institutions made some statement reflecting an easing of admission requirements, e.g., probationary admission with a low GPA. Five in-

licated an elimination or increased options on such things as the GRE, MAT, or TOEFEL examinations. Five indicated an increased use of pass/fail grading options. Other items mentioned included elimination of the foreign language requirement, increasing the time limit, increased non-thesis options, credit by examination and credit for life experiences. These latter modifications seem to be a growing response to what Boyd Page said at the midwest meeting this spring, namely that graduate committees should be "willing to recognize student accomplishment and progress wherever and whenever achieved."²

Another section of the survey asked about "new delivery systems" for master's study. There were 41 citations relating to off-campus study. Twenty-seven indicated an increase in course offerings off campus while one institution indicated just the opposite. Increased utilization of internships, practicums, and field studies as a part of master's study was cited 21 times including two overseas internships. External programs such as an external degree or joint degree with another institution were indicated seven times. The use of TV was cited four times including one institution making use of a communications satellite. One institution cited admission to a master's program without a bachelor's degree as a new delivery system.

The survey included an item dealing with the definition of "graduate faculty." Thirty-three institutions had a clearly identified graduate faculty—23 public and 10 private. The usual pattern involved nomination by department, second by school and/or graduate dean and approval by the graduate council.

Twenty-six institutions reported they had or were developing systematic internal review procedures. Many indicated coordinating agency activity in program review especially among the public institutions. Forty-three of the 47 institutions responding reported a statewide higher education coordinating agency. Thirteen indicated that it had played little or no role in graduate education at their institutions. However, 12 of these 13 were private institutions.

In responding to the section of the survey concerned with program changes, 27 institutions reported program deletions since 1971 including 11 institutions deleting three or more programs. However, the same institutions reported 122 new programs since 1971. Nineteen institutions indicated three or more programs had been initiated since 1971. One institution had introduced 14 new programs since 1971 and 10 more were to be introduced in the next three years. Six institutions planned to initiate the doctorate in the next five years and an additional three institutions indicated the possibility of a doctoral program within five years. Thus, nine institutions had doctoral degree programs in their plans for the next five years. Generally, the program areas indicated were in education, school psychology, special education and the doctorate of arts.

In cooperation with doctoral institutions six reported cooperative transfer programs for their students, five reported joint master's programs with doctoral institutions, and one reported of a cooperative research program.

This summarizes some preliminary data from the initial survey. There are additional items that have not yet been analyzed because of other demands for my time. At its session last evening, the task force decided to continue its work along the following lines:

- Publish more definitive information on the survey sometime after the first of the year;
- Develop a clear, and perhaps, more narrowly focused statement of the task force charge from the Executive Committee;
- Find ways to develop a new attitude of respect for the master's (perhaps the master's should be re-introduced as an intermediate step to the doctorate at major universities);
- Examine and make recommendations on other matters of concern to the master's oriented graduate school, e.g. the CGS booklet defining the master's might need reexamination and revision. ETS might provide other associated data with GRE score reports.

The task force appreciates your cooperation and support and welcomes any suggestions or comments on its activities. Thank you for your kind attention to my remarks.

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A View from New England

Lon W. Weber

In his June, 1972 address, "Trained Incapacity: the University and Society" given before the twenty-fourth annual Pacific Northwest Conference on Higher Education, Harold Hodgkinson stressed that in his view, faith in American higher education is declining rapidly. In the very succinct and informative *Saturday Review* article of last February, President David Mathews of the University of Alabama observed that the Carnegie Report clearly states that education's crisis of confidence is part of the pervasive crisis of pessimism that is hard upon all of this country.

Perhaps these and similar observations by many of the most knowledgeable experts in and out of higher education have led some of us in the New England state colleges to look rather candidly at the on-going operation and composition of graduate programs on campuses, programs which focus primarily on granting master's degrees. As graduate dean at an urban based state supported institution with an enrollment of 8000 students, 3000 of whom are enrolled in graduate studies, I am, along with other deans, developing an instrument to elicit data which will enable all of us to provide information to our constituencies concerning the nature of our graduate programs and rationale supporting them. The outline for the investigation was inspired by Logan Wilson's excellent book, *Shaping American Higher Education*. Sections of the study are: 1) Shaping Graduate Education: Structure and Policies; 2) Graduate Students: Numbers, Admissions Criteria and Characteristics; 3) Graduate Faculty: Qualifications, Activities, Compensation and Workload; 4) Funding Graduate Education: Methods, Costs, and Priorities; 5) Graduate Curricula and Delivery Systems: Old Goals and New; and 6) Interinstitutional Cooperation on the Graduate Level: Systems, Consortia and Unofficial Developments.

My comments are based on the development and rationale of this outline rather than the results of data collected for it is premature to discuss the latter. Permit me then, to address myself to the six topics which I have outlined.

Shaping Graduate Education: Structure and Policies

One of the most critical considerations before colleges not only in New England but throughout the country is the structure of graduate degree programs and the internal process by which they operate. Most institutions have developed an internal evaluation scheme designed to serve as a barometer for the measurement of the qualitative aspects of graduate study. These internal reviews must be self-initiated and in themselves not become the pivotal point around which discussion focuses but rather serve to im-

prove the overall quality of programs. Our goal is to determine which institutions have taken this initiative and the nature of the changes which have been effected as a consequence of such a self-evaluation. No doubt there will be a range of responses. However, it certainly will be the case that those who take these studies seriously will be the institutions which will continue to be viable in the marketplace of the future. I note parenthetically that the State University of New York system has announced that it is eliminating several graduate programs in the face of shifts and in some cases an actual decline in student enrollments.

Graduate Students: Numbers, Admissions Criteria, and Characteristics

Because of our program's appeal to those engaged in public school teaching, the population base is somewhat firmer at this time than is the case with other professional groups which may be affected more radically by a fluctuating economy. However, our concern is to determine whether or not institutions have adequately addressed the question of determining the kinds of admissions criteria which will allow an institution to maintain a high level of quality in its graduate student population and at the same time, to be realistic in terms of total enrollments within various programs. Hopefully, we will be able to say something definitively, for example, concerning the whole matter of grading procedures at the master's degree level.

The questions before many institutions, it seems, is whether to hold to institutionally set admissions regulations or to operate something akin to open admissions for graduate study. Is it desirable to allow students to take a limited number of courses and, if certain grades are received, automatically admit them to a formal degree program? Some have said that if we are not already, we will be confronted with a whole new wave of students interested in achieving an advanced degree, these students will have started their undergraduate work at a junior or community college, had all credits transferred to a degree granting institution, where they graduated with a reasonable grade point average, and then make application to graduate school. If institutions in our study do not hold to minimal scores for the Graduate Record Examinations or the Miller Analogies Tests, then it would seem that the group of students I have just mentioned will become master's degree holders without too much difficulty. I say this because one need not look at grading patterns in any great detail, to ascertain that teaching faculty at the graduate level are reluctant to award anything less than A's and B's.

Graduate Faculty: Qualifications, Activities, Compensation and Workload

In the study an attempt will be made to sort out the various institutional requirements for membership in the graduate faculty. If minimal qualifications for graduate faculty status have not been clearly articulated,

then the distinction becomes rather meaningless. If specific requirements for graduate faculty are no different than those for the faculty in general, then the distinction has lost its significance and if the related question of workload is no different for graduate faculty than those who may be teaching level one or level two courses, then the distinction has lost its significance. Indeed, we are anxious to determine how many institutions in the New England states are actually compensating faculty on an overload basis to teach post-baccalaureate courses. If such a practice is wide-spread, then rather than attempting to achieve a level of excellence, the system is actually militating against it. Heavier teaching loads will be assigned those who should be allowed a schedule which would enable them to spend time in creative pursuits attendant upon graduate instruction.

Funding Graduate Education: Methods, Costs and Priorities

In this section of the study, which is fundamental to the entire investigation, it will be essential to determine the level of funding for graduate programs in the colleges of the northeastern United States. This is fundamental, because funding priorities reflect the concerns which institutions have for any phase of the educational enterprise. If certain of the states have indicated to the institutions, via budget offices, that graduate education should be treated the same as extension programs and faculty payment made on an overload basis, then it will be clear that graduate study has been relegated to a rung on the ladder several steps below that which can be considered a reasonable commitment to post-baccalaureate education. Also, if graduate students are being taught at costs less than level one or two, we may likewise assume that budgetary priorities have been improperly assigned.

Graduate Curricula and Delivery Systems: Old Goals and New

Another important aspect of our study will be to ascertain the range of graduate programs at the various institutions, the productivity of each, and the modifications which have taken place recently. We must assume that the goals for master's degree granting institutions of a decade ago have changed considerably, and if that assumption is correct, then new delivery systems should be used. One of the most difficult chores any institution is confronted with is determining the effectiveness of graduate programs and the efficiency with which they are operating. Certainly there are ways to consolidate offerings across interdepartmental lines which would benefit the institutions and those seeking advanced degrees. The entire area of management comes to mind as a discipline which could serve as the focal point for the training of administrators in education, health services and business. Also, much has been said since the advent of television concerning its contribution to the learning process in higher education. We started last

year, at my institution, to make courses available to graduate students for degree program credit via the state educational television network. Given the costs of instruction and the proven effectiveness of media use, those of us in the New England states will need to articulate more clearly the relationship between the degree granting institutions and the state educational television network. In fact, we may well find that educational broadcasting is presently experiencing difficulty in obtaining operational funds from state legislatures because of complaints that usage is inadequate. Should this be the case, certainly those of us charged with the responsibility of developing non-traditional systems of delivery must absorb some of that criticism.

Interinstitutional Cooperation on the Graduate Level: Systems, Consortia, and Unofficial Developments

The American Association for Higher Education and other national organizations are attempting to facilitate in every way possible the development of voluntary consortia and other forms of cooperation of an interinstitutional nature. Certainly there is a degree of duplication between and among colleges offering similar programs and located in proximity to one another. The problem which surfaces, however, is the same as that discussed in the previous section. Are institutions willing to sacrifice a measure of autonomy in order to cooperate in developing joint programs?

On the graduate level, hopefully, the degree to which institutions accept credits which students transfer from other institutions which offer similar programs can be determined. The preservation of institutional integrity is essential and must be maintained. However, it may be that certain programs must consolidate or face total abolishment.

To summarize, then, the thrust of this study is to attempt to understand the nature and composition of graduate degree programs in the New England states with a focus on institutions which offer graduate work primarily at the master's degree level. It is hoped some data will be made available which will help avoid drift in our graduate program planning and at the same time enable us to respond creatively to new opportunities and problems. In doing so, we recognize that the austerity era in which we find ourselves is but a harbinger of even leaner years ahead.

As the Carnegie Report reminds us, we must clarify purposes, define priorities, and move toward reforms. Quite obviously, if we are unwilling to take the initiative, there are others ready to perform the duty for us.

Master's Degree Programs in Non-Doctoral Institutions: Developing and Evaluating their Purpose and Philosophy

Albert H. Yee

Earlier this year at the annual meeting of the Western Association of Graduate Schools (1974), I discussed the purpose and philosophy of graduate education from the viewpoint of an urban institution whose highest academic degrees are master's degrees. Let me summarize the major points as follows:

First, the doctorate, being the highest academic degree, should not imply that its programs be considered the greatest in quality. In 1972-73, about 286,000 persons were awarded graduate degrees with over seven master's degrees completed for every doctorate. Surely, the quality of master's degree programs must be as great for its candidates as it should be for doctoral students as well as undergraduates.

Second, the expense of doctoral programs and federal opportunities to secure fellowship and research support for them have contributed to the formation of certain perceptions that doctoral programs embody the greatest quality in academic studies. Despite such notions of differential instructional worth and rewards, we have been forced to confront the serious problem of what the Newman HEW report on graduate education termed the "Ph.D. glut." All too often, master's degree students have been taken for granted and not given their proper due; but less so at non-doctoral institutions.

Third, I embraced the emphasis upon first principles in graduate education as expressed by the CGS-GREB report, *Scholarship for Society*. Going beyond concern for federal funding, the panel chaired by J. Boyd Page first attempted to identify the diverse pressures for change, and clarify their roots, concerns, and goals. It then called upon graduate schools to fulfill what only they can do, that is, meet their obligations by having:

- (1) awareness among academic men and women of fundamental directions of American society;
- (2) readiness among faculties and administrations to criticize their own self-conceptions in light of historical shifts in the place of the learned professions in the general life; and
- (3) an appropriate philosophy of change, alert to human hope as well as to human needs.

For the latter, the panel philosophized that:

A sound approach to change in graduate education will reflect a number of attitudes and assumptions, among them the follow-

ing: respect for cognitive rationality as the surest means of advancing human knowledge, interest both in traditional pedagogy and in newer sources of information about where and how learning goes best; concern with how to make knowledge a more effective resource for meeting social needs. The foundation of such an approach lies in awareness that the cause of advanced knowledge cannot finally be separated from that of human aspiration generally. And the understood goals of change might be stated thus: To extend throughout the whole of society a vital scientific humanism, curious, sympathetic, alert to human difference, aware of interdependencies of individual and society, man and nature, and committed to the principle of free, disciplined inquiry.

Fourth, as the CGS-GREB report made clear, graduate education must accommodate the diversity and needs of the students and the faculty who would serve them. Richard J. Storr has also made the same point. In a chapter titled "The Meaning of Degrees," Storr raised the serious thought that if the Ph.D. may have achieved "a kind of glory," that the importance of the degree, in its intended meaning, was obscured when a false emphasis upon degrees as hallmarks of mind (or worse, of personal merit), worked to make having a Ph.D. an end in itself." Going further, he wrote: "What damage can be done when it is forgotten that any degree, as a convention, should stand for something other than itself. The best hope that the graduate school has to determine its own character will be lost if it fails to choose explicitly what the something that each degree represents should be."

Having expressed those views and feeling that they fit or should fit the situation at California State University, Long Beach, I "took the bull by the horns" or "bit the bullet" (whichever expression you prefer) and undertook a survey of those finishing master's degrees at Long Beach in the summer of 1973 and in June of 1974. My first purposes was to test our aim for first principles and quality by getting some insight into the graduates' perceptions of their recently completed graduate studies. The second objective was to obtain some basic statistics to better understand our graduate population. About 203 or 41% of those 502 summer and spring graduates responded to the mailed questionnaire.

The results indicated while there were some concerns for improvement, in the main the graduates said their master's degree programs prepared them very well for their career objectives and obtaining/retaining employment. The university met their basic reasons in seeking graduate studies, which is partially reflected in the fact that only 18 of the respondents changed majors during their course of study. Almost two-thirds said they encountered no problems with their degree programs. For the minority, the major complaint was "unclear degree requirements" and the other scattered complaints included resistance to foreign language and mathematics requirements, the scheduling of classes, changes in thesis committees, and unavailability of advisors at times. In answer to another question directly ask-

ing if their programs provided enough job emphasis, about 38% replied negatively. However, it is a figure which I expected to be higher in this era of career consciousness. The tendency of returns on such surveys towards complaint and the common readiness to protest rather than compliment make me think that the strong majority, almost two-thirds, reporting no problems when asked if they had any is far better than might be anticipated.

Eighty-four per cent said that their master's degree work was much more than a continuation of undergraduate experiences, in their words, e.g., "more interesting" and "ideas pursued in depth," "new and innovative," studies offering "greater independence" but still requiring greater competency, especially in paperwork. The top positive features cited of programs were: "excellent courses," "excellent or qualified professors," "organization and flexibility of programs," "good student/advisor-committee interaction," and "the programs allow individual creativity." The questionnaire was largely unstructured, i.e., did not provide ready answers for checking. The graduates volunteered such responses themselves.

In order of priority, location, academic reputation, and the relative cost of study were the three leading reasons for attending Long Beach. Almost 8,900 graduate students are enrolled this semester with an average load of 6.1 units. The enrollment is an increase of about 400 students over the previous year with a small decrease in study load. Completing their work in about three years, the average graduate was 32 years old upon completion of the degree, putting the average age of graduate students at about 30. Most of our graduate students attend night classes, being employed off-campus and studying part-time to upgrade themselves without changing jobs or move into new positions at hand. About 36% of the respondents were female and about 90% were white. Only one-third received financial aid in way of loans or teaching assistantships; almost three times as many graduates said they would have gone to Long Beach than not if the fees were twice as much per semester.

Asked what their degree specializations were, the graduates listed a wide spread of 48 different majors with the greatest being in business administration which had 22 graduates and 15 from the psychology department. One-third said their career objectives were in educational positions, such as one bold individual who opted for college administration. Thirty-seven different career objectives were also given, such as "administrative management," "city planner," and "public health in underdeveloped countries."

For the question asking why they decided to pursue graduate studies, two-thirds of the graduates answered for better or particular job and career opportunities. The remaining one-third were mainly "to further academic learning and knowledge" and "for personal satisfaction." Only two persons said their objective was to pursue a Ph.D. However, almost 59% said they planned to continue graduate studies, yet only 18.5% expected to do so right away and only 18.5% of them indicating doctoral degrees as their goal. These statistics suggest that there may be two different types of master's

degree students—career-oriented students and a younger, searching type who has not gone to far from the campus yet.

Results of the survey represent an evaluation of our purposes and philosophy for graduate education at Long Beach. The responses were anonymous and quite candidly and extensively written. Accepting their reliability, therefore, Long Beach appears to be satisfying a great diversity of student needs, especially for adults entering middle age who have had considerable job experience and have a good idea of what they want from graduate studies. I am fairly confident that enrollments for the type of graduate student Long Beach serves will continue to grow. I am sure the results would be similar for other campuses of the CSUS system. The data indicate our programs, despite problems some of which we cannot control, are fulfilling individual and social demands. Though we are relatively large, our emphasis remains on quality. Even though our graduates feel they are receiving a good education and preparation for the future, the fact remains that our state provides no more support for graduate than it does for undergraduate curricula. The anomaly of not having a graduate differential in the California State University and Colleges system should be rectified as soon as possible. Doubting if a similar problem would be handed doctoral degree-granting systems, one wonders how it can be considered equitable and sensible that master's students at doctoral degree-granting institutions should derive more resources than at non-doctoral universities.

The graduate deans of the California state system initiated some real action and hope for change through a resolution they formulated last year, for our Board of Trustees recently approved a modest proposal for graduate support. With fiscal constraints and enrollment concerns today, states might want to consider the possibility of emphasizing the highest degrees of various systems, i.e., doctorates for doctoral-granting institutions and master's programs at institutions such as Long Beach. Besides a possible fairer distribution of limited resources, quality of graduate programs may be enhanced through greater faculty and institutional commitment to their particular terminal degree and academic review processes.

The survey is hardly a comprehensive or final assessment. I plan to conduct further surveys and obtain other data. From the educators' point of view at Long Beach, we expect continual assessment as the responsibility of each department. Going beyond accreditation reviews, which are welcome yet have their limitations, the university assesses each of its 49 master's degree programs routinely through a thorough performance review conducted by the department and the university graduate council. Each program cycles through a five-year schedule with new degrees receiving university review in their third year. These performance reviews involve two years—first for collection of data and preparation of a report for the graduate council by the department working with a council subcommittee. In the following year, the report is examined by the full graduate council and evaluated for possible improvements and strengths to laud. At this time, funds have been sought and are being identified so that distinguished persons can be brought from off-campus to aid our performance reviews. In case

you doubt if our performance review process lacks teeth, it brought out the abolishment of two degree programs for lacking quality despite their large enrollments.

Earlier this year, the university created an attractive graduate center to promote a sense of community for graduate students and faculty and stimulate greater dialogue among them and with off-campus guests. For to develop what *Scholarship and Society* proposed for graduate education, to repeat:

- (1) awareness among academic men and women of fundamental directions of American society;
- (2) readiness among faculties and administrators to criticize their own self-conceptions in light of historical shifts in the place of the learned professions in the general life; and
- (3) an appropriate philosophy of change, alert to human hope as well as to human needs,

we must go beyond the classroom, laboratory, and office to promote intellectual and creative interchange and action.

In the words of Robert Maynard Hutchins, who dedicated the center on May 20:

Here the relations among students and faculty from all disciplines—from all of the different aspects of the university's intellectual community can gradually form. Here ideals of citizenship and scholarship can be cherished and nourished. Here uncommunicative or communicative disorders will gradually disappear. The nucleus of a true university is dedicated here tonight.

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TRANSFER AND EQUIVALENCY OF GRADUATE CREDIT

Moderator: David S. Sparks, *University of Maryland*
Charles A. Leone, *Bowling Green State University*
Charley Scott, *University of Alabama*

David S. Sparks

The task force on Transfer and Equivalency of Graduate Credit, which is serving as host to this workshop, was created by the Executive Committee of CGS this past spring. It consists of Dr. Mary Anne Carroll, Assistant Dean of the Graduate School at Indiana State University. Dean Carroll is Professor of Education when she is not deaning and is an active participant in the work of CGS. Dean Virginia R. Ferris is Professor of Entomology and Assistant Dean of the Graduate School at Purdue University. Dr. Duane C. Priestersbach is well known to most of you. He is a specialist in speech pathology and carries the dual title, and burden, of Vice President for Educational Development and Research and Dean of the Graduate College at the University of Iowa. He is also a member of the Executive Committee of CGS and, in that role, one of the authors of the charge to our task force. I am David Sparks, an historian by trade, Dean for Graduate Studies at the University of Maryland at College Park, and I serve as chairman of the task force.

Joining us this afternoon as guests panelists are Dr. Charles A. Leone, Vice Provost for Research and Graduate Studies at Bowling Green State University and Dean Charley Scott, Assistant Academic Vice President and Dean of the Graduate School at the University of Alabama. Each has dealt with the sometimes sticky problems of transfer credit in his role as graduate dean. Additionally each has developed a special perspective on the matter as a result of recent experiences and will, I believe, provide both this workshop and the task force with a solid beginning for our deliberations. Before I turn to Deans Leone and Scott, however, I would like to take just a few minutes to share with you the charge the Executive Committee has given to the task force and a brief outline of the problem as I see it.

In his initial notice to the task force, Chairman Charles T. Lester asked us to look at the problem of "legitimate ways to liberalize the transfer of academic credit and the conversion of non-academic accomplishments into credit." "If more flexible graduate programs of study are developed," he added, "these concerns will become more acute," and CGS should "lead the way in developing sound policy." In subsequent communications from President Boyd Page and Chairman-Elect Shirley Spragg, the task force was asked to host this workshop session and to prepare a final report for submission in advance of the 1975 annual meeting in Atlanta. Depending on the success of our efforts that report will become the subject of one of the

plenary sessions at Atlanta and, perhaps, a formal publication of the Council addressed to the graduate community at large.

I know that everyone in the room will agree with Dean Lester's observation that we are working in an area "that will become more important and probably more troublesome in the near future." I will be surprised if the discussion does not turn up a dozen or more new facets of the problem. After seven years of deaning I thought I had seen most of the variations on the question of transfer of credit but a new one came to my desk this fall. It was an inquiry from an inmate of a penal institution in our state who believed that the terms of his forthcoming parole would require him to remain in Maryland. He had earned a baccalaureate degree at the university of Texas and was currently taking what he described as graduate level correspondence courses from the University of Missouri. Would the University of Maryland, he inquired, accept these credits toward a graduate degree to be awarded by Maryland? After consultation with the appropriate department chairman on our campus I replied that the current policies of both the department and the graduate school presently preclude the granting of credit for correspondence courses. I did point out, however, that graduate education is undergoing substantial change and that some form of recognition may well be given to internships, supervised independent study, and even correspondence courses in the foreseeable future. While I do not anticipate any great commerce in correspondence courses for incarcerated graduate students I do believe that the pressures for the granting of academic credit for learning gained in unusual ways are real and bound to grow.

Before we turn to possible responses to those pressures it might be well to define our terms. This is particularly necessary when dealing with academic credit for, in common with general usage, we tend to use the words in several contexts. In one we use it as a noun where it is the quality of being generally believed or of being worthy of belief or trust, and carries the connotation of trustworthiness, credibility; the right to be believed, or authority causing belief. In other contexts we use it as a transitive verb to credit an account with the amount paid, earned, or even borrowed. There are times, I suspect, when our students and registrars are using the verb and our faculty and graduate deans are using the noun. In darker moments I fear that the verb is driving the noun right out of academia; that credit as honor or trust is being replaced by credit as acknowledgement of payment or the balance in a person's favor in an account.

Perhaps both the use of the term and the problems we face will become a bit clearer if we raise the following questions:

Credit for what? Are we talking about credit to meet residence requirements, or is it merely course credits? Are these something called "graduate credits" which are frequently valued by those seeking teaching credentials or some other certification, or are they graduate degree credits marking progress toward a specific degree objective?

Credit acceptable to whom? Is the credit to be accepted by the graduate school, the department or graduate program in which a degree is sought, or must it be acceptable to the student's major professor or advisor as applicable to a particular individualized program?

What of the quality of the credit? Most of our current catalogs accept for transfer only courses in which the student has earned a "B" or better and we usually stipulate that it must have been earned in a regularly listed course. Frequently we say we will not accept credit earned on a pass/fail basis unless there is additional certification that the pass was at the level of B or better.

And what of the age of the credit? Many of us now require that the credit be no older than that we accept for degree credit from our own students. As we look forward to broadening the opportunities for continuing education for mid-career persons, or even those nearing retirement, I suspect that we are going to be forced to look again at the time limits we have placed on students seeking advanced degrees through regulations governing the age of acceptable credit.

Finally, there is the question of the source of the proffered credit. Traditionally graduate schools have accepted credit for transfer only from regionally accredited institutions. How are we to treat requests for the transfer of graduate credit from Federal institutions such as the Naval Postgraduate School, the Graduate School of the U.S. Department of Agriculture, or the Army War College? And what of the government laboratories such as those at the National Bureau of Standards, the Argonne National Laboratory, or the Naval Research Laboratory where so much excellent science is being done. Close research collaboration between these institutions and neighboring or even distant universities suggests that closer academic cooperation may be in the offing to the benefit of both.

Then there is the question of the transferability of academic credit from strictly professional schools to graduate degree programs. Under what terms and limitations, if any, ought graduate schools to give degree credit for work intended, or actually offered, for the M.D., the J.D., the D.D.S., and similar degrees. And what of the somewhat special case of courses taken in a seminary setting?

Then there is the relatively new category of institutions that are becoming involved in graduate degree work such as Arthur D. Little in Massachusetts, the Rand Corporation in California, and others, such as I.B.M. who may follow their lead.

Time precludes more than a mention of innovative efforts such as that of Nova University or the external degree programs that are springing up about the country, but I am sure that they will require close study by the task force in the coming months.

While questions about the transfer of graduate credit will test the wit, wisdom, and patience of the task force I anticipate that the other half of our charge, that of the "conversion of non-academic accomplishments into credit," will prove an even greater challenge. In this area some very hard

and creative thinking must be done for the stakes are high and there are many persuasive advocates already in the field with special interests of one kind or another to advance. Some of these efforts are well funded and are involving informed and thoughtful people from the graduate community. Others inspire a wait and see attitude.

Graduate faculty members and their deans have regularly accepted non-traditional study, when validated by standardized tests such as the College Level Examination Program (CLEP) or the Graduate Records Examination (GRE), for purposes of admission. Some have even used the latter as a basis for exempting students from particular degree requirements. Of course nearly all of us have used the Graduate Foreign Language Tests supplied by the Educational Testing Service to validate foreign language competence for Ph.D. students. Additionally I am confident that nearly all of us have granted credit for non-traditional learning conducted in unusual settings under the label of internships or externships. Each of these forms of validating learning have been conducted under the sponsorship of the established graduate community or individual graduate institutions and we have developed in-house procedures to cross check the external learning that has taken place.

What we now face is a very different problem. We are being asked to "convert" to some form of graduate credit learning that is non-traditional in its sponsorship as well as in its setting. We are being urged to grant graduate credit for "experimental" learning which may be informal and conducted in a military, business, industrial, or governmental setting. Certainly we will be asked to face again the question of graduate credit for foreign travel and similar experience. Ultimately we will have to find again the line separating legitimate graduate learning from the offerings of the diploma mills and entrepreneurs who will find new opportunities in any re-examination of these matters.

Of course the entire matter is closely related to the process of accreditation. That relationship is underscored by two recent developments. The first is the reorganization of the long-established Commission on Accreditation of Service Experiences of the American Council on Education into a new A.C.E. Commission on Educational Credit (C.E.C.) The new Commission is to be chaired by our own President, Boyd Page, and it hopes to develop guidelines acceptable to colleges and universities for the granting of academic credit for all types of non-standard, non-residential education. Under grants totaling \$386,000 from the Carnegie Corporation of New York and the Federal government's Fund for the Improvement of Postsecondary Education the Commission will supervise the development of a national system for evaluating formal learning activities sponsored by organizations within business, industry, government agencies, voluntary associations, and labor unions.

The second is the Cooperative Assessment of Experiential Learning (CAEL), organized this spring under the auspices of the Educational Testing Service and funded by a grant of \$821,000 from the Carnegie Corporation to cover the first sixteen months of operation. Associated with ETS

in this effort are nine educational institutions, noted for their interest in non-traditional learning, including: the University of Alabama, Thomas A. Edison College in New Jersey, the Empire State College of New York, Framingham State College, Antioch, Florida International University, San Francisco State University, El Paso Community College, and Minnesota Metropolitan State College. While preliminary indications suggest that CAEL will focus on undergraduate learning it is likely that they will be looking also at graduate education. Certainly our little task force will stay in close touch with both of these new national efforts.

In closing let me suggest one final element of the problem before us: the financial one. While I generally deplore the industrial metaphor when applied to the university implicit in references to credit hour production, manpower outputs, and the view of our graduates as "products," we cannot escape the fact that academic credit is a marketable commodity. The instructional services of our faculties are packaged and sold in credit hours and degrees and our public institutions, at least, are too frequently funded on the basis of credit hours produced. The present financial stringency is sensitizing faculty members, department chairmen, deans, and higher level administrators to the importance of credit hours as never before. Many can be expected to view the "conversion" or "granting" of academic credit for experiential learning as a threat to the market they have traditionally served and, therefore, a threat to their own economic security. They can be expected to react accordingly and examine with great care all proposals for "liberalizing" the transfer or the "conversion" of non-academic accomplishments into credit.

I believe, however, that the effort must go forward and your task force will be looking to you for guidance, support, and warnings of pit-falls we may not have recognized as yet.

Non-College Courses, Tour Courses, and Such

Charles A. Leone

Education entrepreneurs are posing a serious threat to the quality and integrity of graduate degree programs and even to graduate schools themselves. Colleges and universities are expected, by students and others, to accept for degree credit a variety of bargain-rate courses offered by non-academic, non-proprietary organizations. In some instances the offerings carry a thin veil of respectability by making graduate credit for them available through a regionally accredited college or university that will certify the credits earned as transferable to the degree programs of other accredited institutions. In other circumstances, the students are misled into believing that a course is being sponsored by their own graduate school because one of its faculty members is doing the teaching, and the site for

course is usually in a motel or other facility located near the university or college. The worst aspect of all is the apparent willingness of full-time faculty members to participate in extracurricular teaching that is blatantly in direct conflict with the interests of the university or college that employs them.

This is not a statement against innovative graduate educational programs. I applaud the new opportunities for life-long educational efforts being developed in many graduate schools and taught and managed through their own facilities, faculty, and resources. I am intrigued by the possibilities of crediting the proprietary course offerings by manufacturing industries and major retail corporations. I applaud the steady development of external or non-resident degree programs by graduate schools that exploit the on-site opportunities for research in industries and business organizations. I believe, too, that we have only begun to explore the possibilities for graduate-level degree credit for competency-based equivalencies to course credit. In fact, I support most efforts at academic outreach so long as there is an adequate system to assure quality and a substantial commitment of faculty and other resources by universities and colleges that regard their accreditation status as precious and worthy of protection.

I am not going to make a presentation against "degree mills" or the wide-ranging and often invasive activities of some accredited and well known universities. Such matters are serious problems for the graduate educational organizations of the nation but are beyond the scope of this paper. My concerns will be restricted to activities by non-accredited, private business organizations that exploit the credit and degree granting authorities of colleges and universities for financial gain.

The activities that dishearten me have their beginnings in the standard degree programs in most any university. Quality programs, fought for and gained within the university (and state) approval systems, unfortunately are, in time, quietly degraded and the changes are justified in the name of increasing flexibility for and service to students. A review of what is normally involved in program and course approvals at my own university and how degradations occur will be instructive.

The approval of a graduate degree programs is a complex affair. The development of a proposal for the program invariably requires several drafts. Because of the numerous requirements that must be met to justify the program and assure its approval, months and sometimes years of regular attention to the proposal are needed. Faculty resources to teach it, library resources, facilities, budgetary commitments to support it, and student and societal needs are but a few of the items that are determined, justified and argued at each step of approval process. The program must be fought through a series of councils and review and evaluation committees within the university. In addition, in Ohio, statewide approvals are needed from seven of twelve state universities and colleges before it can be recommended to the chancellor of the state system for presentation to the Ohio Board of Regents. The chancellor may also impose his own reviews by external consultants before bringing the program before the Board for approval.

Once a program is approved, each course, as it is offered for the first time is subject to severe reviews and approval by a college council, the graduate council, and the academic council. It is at these times that a department makes specific guarantees and commitments to the course with respect to faculty, students, library resources, computer, laboratories, audiovisual support, the adequacy of support services such as textbooks, syllabi, mimeo and ditto handouts. Lastly, credit-hours and scheduling are justified to assure appropriate presentations to students.

Having gone through all the above, one would assume that the concerned department would fight to preserve the integrity and quality of its program and courses. Instead the process of degradation begins. Requests are repeatedly made to grant exceptions to students or to waive this or that requirement. Instead of teaching a particular course in four one-hour sessions each week, it is rescheduled to be taught in one, four-hour block, usually in the evening. The evening class further degrades from four hours to 120 to 140 minutes of actual class time and the reduction causes no apparent difficulty in covering the course content. The course may appear as an extension offering to be taught at a site 60 to 90 miles away from the central campus. The needs for library, computer resources, and audiovisual support apparently vanish. The textbook becomes the only resource available to the students and sometimes the use of a textbook is discontinued in favor of the experimental backgrounds of the students. The member of the graduate faculty who was originally designated as qualified to teach the course is replaced by someone who "has a doctorate" or "had the course earlier," or "is working in the speciality in the field" and who is more conveniently located to the distant site. The course, now being taught in the single four-hour block, sometimes has a slow start-up. The first week's class session may last only 15 to 30 minutes for orientation purposes; the second week's session may run for 30 to 60 minutes to check class rosters, pass out syllabi, make assignments of term papers, and provide some more orientation; the third week's meeting will finally regularize into two and one-half to three hours of class time and remain thus for the remaining seven weeks of the quarter.

After students have been exposed to a degraded degree program the attractiveness of the advertisements by private entrepreneurs, selling special courses offering graduate credit and taken "where you work," or over a week-end in a motel or as part of a tax deductible vacation tour at home or abroad, appear to the students as only minor variations from what they are already experiencing in the degree program at their universities. The differences diminish even more when faculty members from their universities teach the courses being advertised. The differences virtually disappear if some of the classroom handouts should bear the letterhead or heading of the university from which the professor comes.

A few examples of the kinds of operations that concern me are described below. Compare what they propose with the harsh realities of getting courses approved for credit within a university. Sense, if you can, what will be the students' attitudes, who are in degraded degree programs, toward op-

portunities to earn quick, convenient, less expensive graduate credit, that will be indistinguishable on an official transcript from the slower, less convenient, more expensive and likely more difficult course taught at the central campus of a university.

One organization offers, for \$200, a five and one-half day workshop on teacher effectiveness training carrying three quarter hours of "upper level credits." The course is usually taught by a faculty member, after having been trained and certified, from the local college or university using an unpublished textbook. The teacher is to be provided with a detailed teaching syllabus and audio-visual support materials. Students are to receive a programmed skill-development workbook. It is suggested that professors offer the course for credit as an extension or continuing education activity of their university or college. All expenses are to be paid except travel and living expenses. The course is generally taught at the decision of a district superintendent or a principal who also provides the classroom facilities. The advertisement received by the Dean of our College of Education contained a brochure complete with testimonials from satisfied customers and a self-addressed post card to facilitate his reply.

In the letter received by the Dean of our College of Business Administration another organization claimed to have found a group of businessmen in the area served by our university who would be interested in our MBA program if scheduled at a suitable time and place. They propose to use our professors to offer our MBA program on a concentrated time basis. They would provide "tuition, facilities, students, and reimburse your professors for all expenses going to and from class locations as per schedule."

Another group informed me by letter that a workshop in special education would be conducted in our area. The workshop was said to have been planned by individuals from the special education departments of Bowling Green State University, the University of Toledo and Defiance College and that institutional approvals to accept transfer credit for the workshop from the University of California Extension-Riverside had been presumably obtained. The course was to be taught by area instructors. A total of 36 to 40 hours of class time in a brief period to include lecturing, informal discussions and suggestions for independent study was promised. Students were to give a report on nine hours of field experience and to write a report on what they learned in the course. Particulars concerning the course were to be handled through a local person designated (actually named) by them but not associated with our university. The letter assured me repeatedly that all details had been handled and that only my formal decision concerning the acceptability of the credit was needed. It was to be sent to their local representative.

Another organization wrote me assurances of the educational worthiness of a series of courses conducted by them for credit through two liberal arts institutions. The course of particular moment was Education 344, Germany, 4 semester units (credits?) offered through one of the institutions. Announced was a seven day field study of Germany. Included as highlights were a Rhine River steamer journey, visits to Rhine Valley

vineyards and wineries, exploration of the University of Heidleberg, personalized travel through the walled city of Rothenberg, trips to Nuremberg Stadium and old city section, and the Munich museums. Advertised also was the possibility that teachers might qualify for tax deductions. By my estimate the seven days would equate to 60 hours of learning time on the tour or one and one-half semester units of credit. The remaining two and one-half credit units are presumably for non-academic activities such as eating, sleeping, ablutions, etc.!

It is perhaps unfair to single out only four organizations for comment. There are many more in operation throughout the nation. All threaten in varying amounts the integrity of the graduate degree programs offered at universities and colleges. Simply stated the graduate schools are being used to serve the ends of the external organization despite the fact that the information published by them insists that the converse is the reality.

Granting graduate credit for the course or accepting it in transfer to satisfy degree requirements is simply not in the self interest of graduate schools. The courses are offered to anyone who signs up and pays; the admissions and evaluation processes of graduate schools are completely bypassed. Graduate schools have no control over what is taught, or by whom. There are no quality controls; in fact even the evaluation of the performance of the participants are done or managed by the external organization. Many of the persons who take the course may already be in degree programs in your university and you find yourself providing administrative services to the external organization whether you wish to or not. Telephone inquiries and correspondence concerning the courses, because the latter are usually unknown to your office staff, take excessive effort and time to handle. Frequently the personal attention and time of the assistant deans and the dean are required, and sometimes even demanded by the students.

The fact that the courses are taught usually in the immediate area by one of the regular, full-time faculty of the local university conveys the impression to the student that they are sponsored by the university and, therefore, the credits are no different from any other granted by the university. It is when students take the course and then afterwards, attempt to receive credit for it in a degree program that their anger surfaces, frequently in the office of the president, occasionally in the offices of state legislators and the state Board of Regents, and even in the office of the governor. The hours lost in defending a refusal to dignify the courses with credit in your programs or fending off threatened legal action are hard for me to justify to myself.

A matter of most serious concern to state universities is the loss, through the external courses, of student credit hours which are the basis for most state subsidy. Additionally, when our own full-time faculty members participate in these external ventures as instructors, they are engaging in a direct conflict of interest with the institution that employs them. The conflict of interest is not only financial but it also undermines the entire structure of academic decision-making and academic governance within the university. Faculty members are paid to teach, do research and to develop their

knowledge and professional skills. Sometimes special internal grants are awarded to encourage the latter two efforts. It is incredible that those who contract to teach in the external course seem to find nothing unethical or inappropriate in their actions. As indefensible and offensive as I find such behavior, I am equally unhappy with the refusals of the universities and state boards of higher education to outlaw the external entrepreneur. Similarly, the regional accrediting agencies, and the several regional and national organizations of graduate schools behave as if there is no problem, or if a problem is admitted, to behave in apparent helplessness. Is it not time for us to take a stand for quality and integrity?

Charley Scott

As I know graduate education, it is symbolized in two elements. First, there is success identified from instruction and examination in the discipline of the student. Second, there is success in research. Presumably, the former provides the background for the latter. In considering the transfer of and equivalency of credits, I understand we are considering ways in which the former may be accomplished. It may be that ways in which the latter may be diversified should be considered, also. If that were done, I believe the content of the Ph.D. would be altered; it is doubtful that the prestige which the Ph.D. holds today will permit alteration. Consequently, it is important that we give consideration to providing increased flexibility within acceptable standards for graduate education as we know it.

One of the thoughts that may be advanced for control of transfer and equivalency of credits is that knowledge is cumulative and sequential. To assume this is to say that an individual will be better educated if the individual proceeds in his education in a steady and carefully programmed manner at all stages. Carried to its extreme, this assumption might be interpreted to require that an individual move from elementary education through the most advanced level in some cumulative way to the point that he either reaches the frontiers of inquiry or is ready to apply what he has learned to the solution of problems in his area of study. However, it is not clearly demonstrated that learning is sequential and cumulative.

Another item that will rise is quality in the academic program. We have long considered that quality and prestige go hand in hand. Yet, we will generally agree that the quality of the student is the primary factor in the student's education. It is often said that a good student will achieve a first rate education in any institution. This is not to say that support from outstanding faculty, availability of good learning resources, and association with gifted students are not factors in determining an educational experience. It is to say, however, that the focus should be on the actual learning experience rather than on actual or fictional characteristics of an institution from which the experiences may be gained.

Mobility in today's society has become a way of life which affects persons of all ages. As individuals become more transient, they increasingly

move from one academic institution to another for a variety of reasons. Students frequently seek better and more challenging programs which offer the opportunity to satisfy specific achievement requirements. Changing employment assignments prevent students from completing course sequences at single institutions. The objectives of mobile students may be as serious as those who remain at one institution, and achievements may be as commendable. Student mobility and the slowness of academe to initiate change in credit transfer policies are not compatible. All of us have seen records of students who have accumulated credits sufficient to award one, two or more master's degrees, but no degree has been awarded. Student mobility creates a demand for flexible programming, flexible course requirements, and generalized regulations specifying the design and number of required course. Yet graduate schools have not incorporated full use of academic and individual resources into graduate programs.

Part of the hindrance to innovative graduate programming can be attributed to the use of the credit hour. We are attached to the credit hour system which provides an easy system of accounting. Quality is attached to the credit hour system through the assignment of grades. We might examine the question of what graduate credit represents. If graduate credit represents levels of development, skill obtainment, understanding, knowledge and scholarship, then a re-examination of tightly structured transfer policies might be undertaken. Graduate schools in the past have been so concerned with the equality of credit and academic requirements that few hours have been transferable.

Another prohibiting factor in the development of innovative graduate programming has been the standards established by regional accrediting agencies. Until 1969 the College Delegate Assembly of the Southern Association of Colleges and Schools permitted each member institution to develop its own regulations with regard to transfer and extension credit within the strict limitation specified below.

"Except in the case of planned coordinated inter-institutional programs, not more than six semester hours of graduate credit taken on campus or through extension in a different but recognized institution may be transferred and credited to the master's degree.

Graduate credit not exceeding twelve semester hours may be accepted from extension study in a program under the direction of the degree-granting institution but such credit may not be applied to reduce on-campus residence.

Not more than a total of twelve semester hours of extension and transferred graduate credit may be accepted toward the master's degree."

At the doctoral level, the SACS was somewhat more liberal. No limits on the amount of transferred work were placed and transfer of resident credit was made a part of the transfer course credit.

In 1969, the College Delegate Assembly of the SACS adopted a revised standard for graduate education. The revised standard placed an increased emphasis on the quality of the graduate education and decreased substantially the emphasis on quantitative factors in the graduate education experience. In the case of the transfer of credit at the master's level, there is no mention of a limitation but there is included a requirement for association with the resident faculty sufficient to permit individual evaluation of a candidate's capabilities and achievements. The whole message of the revised standard is that an institution should establish standards of quality and evaluation appropriate to its own situation and with full recognition of all educational experiences of an individual graduate student. This change also helped eliminate microscopic transcript inspections undertaken to maintain compliance with the standard.

In a recent survey among doctoral institutions and others in the SACS region, I discovered that several of the deans of the graduate schools were not aware of the changes made by the College Delegate Assembly in 1969. This in itself was somewhat disconcerting because the action of the SACS in revising the standard on graduate education had been one of the primary forces in causing the reorganization of the Southern Conference of Graduate Schools. Some of the deans in the SACS region felt they should have been permitted input into the revision. Other deans were aware of the revision but had not called the matter to the attention of their graduate governing body. Some were giving it consideration but only a few had made any changes. At the 1974 meeting of the Conference of Southern Graduate Schools, Dr. Robert Toulouse, Dean of the Graduate School of North Texas State University, reported that on a regional survey he had conducted, he found some upward movement on the matter of transfer credits but that limitations still exist.

Little has been done to establish means for the assignment of graduate credits for non-traditional learning or life long learning experiences. Graduate education cannot afford to be an island in the stream of knowledge. Bridges can be built between universities and the general society. More flexible patterns of participation can be developed which integrate life long learning experiences, career objectives, and academic achievement. The problem that faces us is the translation of competencies developed in non-academic settings to credit hour requirements. We think that each graduate degree program has a comprehensive set of goals. By doing this, an institution is saying what it is that the student needs to complete at the institution in order to reach the indicated objectives. Yet, we do not always accept the premise of taking a student where he is and of defining simply what is needed to reach the goals. That will eliminate the transfer of credits and place the decisions in the hands of the faculty of the program area. The integrity of the faculty in a program area constitutes the only effective means of program quality in a graduate program.

As I indicated, one of the major problems that must be overcome is the method of relating life long learning experiences and other forms of non-traditional education to course requirements and program objectives. A list

of program objectives including subject content could be developed. The academic components in an individual's background might be compared to the program objectives and subject content. Documentation or evidence could be obtained through performance, samples of creative work, objective evidence of achievement, and examinations. Prior to acceptance of this type of work, a clear correspondence between the experience and the course should be established. If needed, the number of hours which could be obtained in this manner might be controlled in order to establish an appropriate balance between traditional and non-traditional learning experiences.

After reviewing the documentation of non-traditional learning, credit could be awarded, if required, in one of the three following manners: 1) Course credit could be awarded without further student preparation or demonstration. 2) Course credit could be awarded after assigned independent reading has been completed. 3) Course credit could be assigned after special independent study had been completed. Criteria for judgment should be clearly established prior to the evaluation process and guidelines should be clearly delineated. However, this type of credit transfer must retain flexibility or it will lose its purpose. I am not convinced that the obtainment of a graduate degree should be based on the amassing of graduate credits.

In whatever we do though, graduate faculties must retain the right to evaluate activities in terms of their quality and their application to a proposed program of study. In addition, these faculties must be the ones to evaluate the level of education of a candidate for a degree and determine the appropriateness of an institution awarding an advanced degree. It is inappropriate to suggest that previously used standards of accomplishment should be set aside. However, it is appropriate to suggest that ways to achieve these standards may be increased. Evaluation of life experiences is another item to be assessed and there is no indication of need for changes in the total assessment.

The report on emerging roles and responsibilities in graduate education in America entitled *Scholarship for Society* suggests that graduate students must be exposed to the general society through projects which relate the subject field to social reality. Graduate students should no longer be permitted to work in isolation, but rather encouraged to discover ways to relate to surrounding life. Scholarship and study can no longer be done in abstract form. With the development of relationships between scholarship and society, academic institutions must grow to meet the latest challenge. The restriction of scholarship and course credit can no longer be restricted to the academic setting. Methods to evaluate life long learning experiences, personal experiences, military experiences and other non-traditional study can be developed. At the same time, scholarship must be related to social reality so interaction and communication are possible. Existing graduate programs have been limited and prescribed. They have been poorly adapted to a rapidly changing society. Greater emphasis can be placed on developing individual programs to meet current individual and societal needs. Consortium arrangements can be and have been developed which permit

graduate students to cross institutional boundaries without credit transfer penalties. Academic institutions must recognize the need for developing an evaluative process to measure the amount of credit which should be awarded for non-traditional learning experiences.

Last year during the annual meeting of the Conference of Southern Graduate Schools, Dr. J. Boyd Page challenged the deans of graduate schools to take a leadership role in opening up graduate education. Some of you have heard that message and others may have heard it at other meetings or may have read the same message. I know that it is included in the *Proceedings* of the Thirtieth Annual Meeting of the Midwestern Association of Graduate Schools. Among the items which were included in the challenges of Dr. Page are the transfer of course credits and evaluation of life experiences. A task force on transfer and equivalency of graduate credits has been established. One only has to examine catalogs of graduate schools which still list quantitative limitations on the transfer of course credits at the graduate level to understand the importance of reviewing credit transfer policies. I recognize that the task force can develop no binding policies on any institutions of higher education. The task force can develop information and can produce guidelines which can be useful to those who are willing to give consideration to them. The task force can also encourage the introduction of flexibility in evaluating course credit transfer. I look forward to the task force's findings and recommendations.

Third Plenary Session

PRESIDENT'S REPORT AND BUSINESS MEETING

Thursday, December 5, 1974, 4:00 p.m.

Presiding: Charles T. Lester, *Emory University*

J. Boyd Page

It is difficult to report adequately the many activities of the Council. I had planned to attempt a detailed overview but important issues have emerged which need to be discussed in this meeting of the Council. Some activities do, however, justify comment. I will, therefore, Mr. Chairman, try to make this truncated report as brief as possible.

The affairs of the Council are in good order. The Executive Committee has been extremely active this year under the able leadership of Chairman Lester. We have had a high level of activity on the part of task forces and committees. Much of this is evident in the program presented at this meeting. Other activities are, of course, less evident. I am pleased to commend most enthusiastically the work of the Program Committee, under the able chairmanship of Chairman-elect Spragg. I trust you will agree that a most excellent and useful program has been provided. As in any voluntary association, most of the activity results from work of many people. Much of it centers very heavily on our staff—Mrs. Corbin, Dr. Ryan, Mrs. Daniel, who has joined us just recently, and in absentia, Mrs. Pittore, who has served the Council for more than six years but is now at home expecting an addition to their family. These are the people with whom you come in contact most. We do appreciate very much the quality of their efforts and their work in your behalf. I hope you will join me in expression of thanks through applause.

Briefly, some of the activities from the central office. The consultations under the leadership of Dr. Ryan have expanded markedly. During the last year and currently either in process or completed, consultation at thirty institutions for 116 programs have required 194 consultants. We continue to get very fine comments about the consultation service. It appears that this is an activity that will and should grow. You may have noted that the *Newsletter* is now being issued monthly. We hope you find it and the other publications sent from our office useful. I am happy to report that the membership of the Council has taken a rather sudden spurt this year. Our members have grown from 308 a year ago to 330 currently. At the last meeting of the Executive Committee, four additional institutions were elected to membership. It is a pleasure to announce them now: George Mason University of Fairfax, Virginia; the University of North Carolina at

Charlotte, the University of Nevada at Las Vegas; and Southern University at Baton Rouge. We welcome these fine institutions into membership in the Council.

I wish to bring to your attention that we have several representatives of our sister association, the Canadian Association of Graduate Schools, in attendance. We are happy always to have our friends here. They bring new insights into developments in Canadian graduate schools. I have been privileged to accept their invitation to participate in the annual meetings of CAGS—it is significant that so many of our concerns duplicate theirs. We hope that relationships between our two associations may be drawn even closer.

We continue to enjoy close and fruitful cooperation with the Graduate Record Examinations Board. Evidence of this was well presented at the special plenary session yesterday morning. I cannot in this brief summary list the many ways in which we cooperate. Prominent among them are, however, the Admissions Manual, of which you are well aware, and the annual enrollment surveys, the last of which will be presented to you at the close of the meeting. I will try to summarize the current enrollment survey very briefly in just a moment.

You may recall that last year in our meeting the report of our joint Panel on Alternate Approaches to Graduate Education was first reported and discussed. There has been no formal activity during the year, but it is significant that something over 15,000 copies of that report have been sold and distributed. We are aware that many universities have distributed this report widely among the members of their graduate faculties and that these have been used to generate much useful discussion. I have had the privilege of participating in some of these. We have in mind now that at some appropriate point in the near future we will seek support for a continuation study or at least an evaluation of what is happening in the way of innovation, new procedures, and new organizations in graduate education.

It would not be useful to attempt to enumerate examples of our close association and participation with many agencies both in government and foundations and other associations. We act jointly, as you know, with leading educational associations, largely under the overall umbrella of the American Council on Education, in drafting proposed legislation and monitoring what is going on in the Congress. When expressions of opinion and position are appropriate, we respond or solicit your response and attempt continually to supply information or testimony supporting the ultimate good of graduate education.

We have been heavily involved over the last two years in an activity directed toward delineation of the appropriate roles of state coordinating boards, state legislatures, and executive officers in actions affecting graduate education. I am referring to the Task Force on Graduate Education of the Education Commission of the States. That report is in the final stages of preparation and will be issued soon. No report can command unanimous agreement and endorsement from a wide and varied constituency—and this is certain to be true of this report as well. I do feel, however, that the report,

when it becomes available, is deserving of careful and thoughtful analysis and that you will find it useful. I think it can serve as an effective statement to call to the attention of state agencies and legislatures their responsibilities with respect to graduate education.

We are heavily involved in the whole area of evaluation, both internal and external, of graduate programs. A major part of the program at this meeting has been developed from one of our task forces studying this important and timely topic. Programs still to come will be directed toward this. Accreditation and regulation of graduate programs pose particularly knotty problems. Your Council is actively involved in working for sound and appropriate procedures for this crucially important field of activity.

There is not time now to report in detail on studies directed toward (1) determination of the costs of graduate programs and (2) identification and evaluation of significant and measurable indicators of quality in graduate education. In both of these ongoing studies, the major part of the work is being done under subcontracts. Funding is provided under a contract with NIH for the Gradcost study and a grant from NSF for the Dimensions Project. The Gradcost study is being conducted under subcontracts at Washington and at Tulane Universities; the Dimensions Project by subcontract at the Educational Testing Service.

The Executive Committee has under active consideration plans for drafting new definitive statements relating to standards and conduct of graduate programs. Our stock of position papers and statements of policy is rapidly nearing depletion. The Council plays a significant role in establishment and, through consensus, maintenance of high standards. Many institutions and agencies look to the Council for guidance. Generation of newly developed definitions and criteria should clearly have high priority. Many of our member deans can expect to be called on to contribute.

I am happy to announce that the 1975 summer workshop for new and not so new graduate deans will be hosted by the University of Wisconsin at Madison in late July. Detailed announcements will be issued as soon as final arrangements are completed.

I have been asked to announce formation of a new association of graduate schools in the Northeast. The organizational meeting is scheduled to be held in Princeton, New Jersey, in October. On our view this is a very desirable development. Regional associations are not component parts of the Council but we do encourage and support their activities and are pleased to cooperate in their ongoing programs. With establishment of the proposed organization, national coverage by regional associations will be complete.

Let me report now very briefly on the fourth annual enrollment survey. This is a joint CGS/GREB activity for which Dr. Altman is largely responsible. These reports are more widely utilized every year. These survey reports represent a unique resource which is now coming to be very widely recognized. You will see some innovations in the report this year directed toward indication of the size of the sample with respect to total enrollments. As you know, institutional response has always been over 90 per cent of CGS institutions. The total enrollment, as near as we can determine it, is about 740,-

000 graduate students enrolled in CGS institutions. The response rate this year is at 90 per cent of the institutions. Enrollments reported in the survey represent about 86 per cent of the total 1973 enrollment in the CGS institutions.

Without going into detail, overall enrollment this year compared to last shows 4.3 per cent increase, 5 per cent in the public institutions and 1.8 per cent in private. First-time enrollment, 7.6 per cent increase, 7.9 per cent in public and 6.3 per cent in private. An innovation this year was the question on numbers of applications received. Some institutions had difficulty responding to this question since they do not record these dates but a significant response was obtained. A 4.6 per cent overall increase in applications over the preceding year was reported. This was based on reports from 204 institutions which were able to provide data for both 1973 and 1974. This indicates a significantly increasing interest in graduate study. The number of graduate assistants on appointment showed a 2.8 per cent increase, 3.3 per cent in the public institutions and 0.5 per cent increase in private. The number of graduate fellows, of course, continues to decrease. At public institutions there was a decrease of 6.6 per cent, in private a 7.4 per cent decrease. Overall, a 6.9 per cent decrease is reported. The number of master's degrees increased at public institutions by 3.3 per cent, in private by 1 per cent for an average of 1.9 per cent. The number of Ph.D. degrees awarded decreased 1.9 per cent in public institutions, 1.7 in private for a 1.9 per cent decrease overall. The overall proportion of graduate students reported as registered part time has increased from 54 per cent last year to 56 per cent this year. Complete copies of the report will be distributed at the close of this meeting and by mail to all member institutions. The complete report will be included in the *Proceedings* of this meeting to be published early in 1975.

I would like again to give special thanks to Dr. Altman and his staff at ETS who prepared this report under great time pressure. I commend our institutional representatives for your continued support of this important activity and solicit the same high participation for Part II which is now on your desks.

In closing, let me express again my sincere appreciation of the opportunity to serve the Council. We should have a busy year ahead. It should be an interesting year; we are looking forward to it with anticipation. Thank you very much.

*Editor's Note: The full report of the survey may be found in the Appendix on page 253.

New Business

C. Lester:

Thank you, Boyd. A good many of the task forces and committees have been active during this year. Many of them, in a sense, culminated their activities by having programs at this particular annual meeting for which we are grateful. We are also grateful for the written reports which have been filed. I have been asked particularly by the task force on the problems of urban universities to indicate that they plan to prepare a position paper which will be submitted at a later time, and would welcome any comments or any suggestions.

If any member of the Council would like to address that committee I hope you will avail yourself of that opportunity. Dean Zauchenberger is chairman of the committee.

At this time, I would like to call on Dean Robert Baker of Northwestern University to present the report of the Resolutions Committee.

R. Baker:

The committee was only appointed yesterday. The Committee is composed of me, Dean Herbert Rhodes and Dean Jacob Cobb. The first resolution pertains to a matter that has been under discussion by many of you. It is the sense of the Committee on Resolutions that the process of amendment of the Family Educational Rights and Privacy Act of 1974, that is now going forth, is encouraging and that our responsibility will be well served if the Executive Committee extend to Senator Pell and others its wishes that those anomalies and ambiguities that threaten the relationship of student, his sponsoring professors and the graduate institution be removed. I move the adoption of this motion. (Motion approved unanimously.)

The second resolution may be somewhat premature because the meeting is not quite over but we presume that things will go as they have gone.

Be it resolved that those responsible for the conduct of the fourteenth meeting of the Council of Graduate Schools be given our thanks for their fruitful efforts. The choice of Phoenix at a time when graduate education was in some need of rebirth was most appropriate. I move the adoption of this motion. (Motion approved unanimously.)

C. Lester:

At this time I would like to have a report from the Nominating Committee. Before that report is made, let me point out the succession of officers in the

Council of Graduate Schools. Dean Jacob Cobb, who was this year serving as past-chairman, now detaches himself from the Executive Committee to the sorrow of all of us who have had the pleasure of working with him. I move into the position of past-chairman. My distinguished colleague, Shirley Spragg, moves into position of chairman and at the proper time today I will turn the gavel over to him. I am happy to report that the Executive Committee in its last meeting has elected Dr. Sanford Elberg of the University of California at Berkeley, as the chairman-elect. At this time I will now ask for a report from Dean Wesley Elliott, who is chairman of the Nominating Committee.

W. Elliott:

The constitution of CGS establishes and defines the Nominating Committee and charges it with the responsibility of presenting a slate of nominees to replace retiring members of the Executive Committee and to nominate members at large for a position on next year's Nominating Committee. In accord with our constitutional mandate, we have solicited nominations from the membership and have received a rather large number from this wealth of talent. The Committee has made its selection with a view to representation from the various kinds of institutions that make up our organization and to keep a geographic balance. After we had submitted the nominations, which you received by mail, we were notified at this meeting that there were two additional positions on the Executive Committee that were to be one-year terms. So, at the time of this meeting, we have convened members of the Nominating Committee individually and present the following slate of names for your consideration. Nominated for a three-year term of the Executive Committee of the Council are Margaret Perry, University of Tennessee at Knoxville; Donald White, Boston College; and Joe N. Gerber, Stephen F. Austin State University. The following three persons are nominated for election to one-year terms to complete vacated terms. Benjamin F. Hudson, Atlanta University; Earle Canfield, Drake University; and Lyle Jones, University of North Carolina at Chapel Hill.

C. Lester:

You have heard the report of the Nominating Committee. Are there nominations from the floor? Those in favor say aye! So ordered.

Now, we will hear the report for membership on the Nominating Committee.

W. Elliott:

Members at large for the 1975 Nominating Committee are: Dale R. Comstock, Central Washington State College; J. Knox Jones, Texas Tech University; and Robert Kruh, Kansas State University.

C. Lester:

You, have heard the nominations for membership on the Nominating Committee for next year. Are there any nominations from the floor? Do I hear a

motion from the floor? Those in favor, please say aye—opposed?—so ordered. Thank you very much Dean Elliott.

(Dean McAllister H. Hull, Jr. of the State University of New York at Buffalo offered two resolutions for consideration by the Council membership. In view of the CGS procedural rules, the Resolutions Committee and Executive Committee did not have sufficient time to review the proposed resolutions and thus formal action was precluded.

The first resolution pertained to the tax status of graduate assistants and the second concerned itself with the question of external review of graduate programs.)

C. Lester:

This, of course, is the end of my term of office as chairman of the Council of Graduate Schools in the United States, and it shortly will be my pleasure to turn the gavel over to my successor. I would like to call the new chairman of the Council of Graduate Schools to the podium and turn the gavel over to him. Shirley, would you please come forward at this time? It is my pleasure to introduce to you your new chairman, Dean Shirley Spragg of the University of Rochester.

S. Spragg:

I think it is abundantly clear to everyone, if it hadn't been before, that Charles Lester is going to be a mighty hard act to follow. I'm sure that I cannot promise you the insightful parables and metaphors and hyperboles that he masters so easily. My duty is a simple one and that is to close this meeting. I should announce to you though that Dean Lester has promised that next December there will be sunshine in Atlanta.

I declare this meeting adjourned.

Fourth Plenary Session

Friday, December 6, 1974, 9:00 a.m.

INTERNAL AND EXTERNAL REVIEW OF GRADUATE PROGRAMS

Chairman: S. D. Shirley Spragg, *University of Rochester*
Arthur C. Gentile, *University of Nevada, Las Vegas*
E. Phillip Bollier, *Tulane University*
Frank E. Horton, *University of Iowa*
John R. C. Morton, *Western Illinois University*
James M. Furman, *Washington State Council on
Higher Education*
Albert H. Berrian, *Howard University*

S. D. Shirley Spragg

This morning our program has to do with the review and evaluation of graduate programs. We have divided it into two parts—internal, those that are conducted by the institution itself, and external. Obviously, the review and the evaluation of graduate programs has been going on for a long time. It isn't new in any sense but, in the recent past, the evaluation of graduate programs has assumed a new urgency, new budgetary constraints, and an increase in the concept of the application of probability, and has become a matter of increasing concern to a good many of us. I suspect we have to admit that over the years perhaps graduate programs have been somewhat less subject to accountability in the sense which I use the term.

The Council of Graduate Schools established a task force last year to look into the question of institutional review, to make some comments, and to submit a report. The task force, under the direction of Dr. Gentile, has been at work preparing its report which will eventually be available. This morning, the members of the task force are going to share with us some of their thinking in this area. The chairman of the task force is Dr. Arthur Gentile, who is Vice-President of Academic Affairs at the University of Nevada at Las Vegas. Until recently, he was Dean of the Graduate College and Vice-President for Research Administration at the University of Oklahoma. Without any further words then, I shall turn this program over to Dr. Gentile.

Arthur C. Gentile

The final report of the Carnegie Commission on Higher Education states that higher education has moved from genteel poverty to genteel

poverty in one generation and what has been called the new depression in higher education has had perhaps its greatest impact on graduate education. Thus, while the decades of the 50's and 60's saw initiation, growth, and development of many new graduate programs, the decade of the 70's may best be characterized as one of entrenchment. And thus was born, in the early 70's, the concept of program review. As Dr. Spragg mentioned, we have perhaps arbitrarily divided program review into internal and external program review. Although these terms may be self-explanatory, our task force defined internal program review as the process which is essentially conducted at an institution by the staff and faculty of that institution while external review is one outside. Needless to say, these two processes have a great deal in common and a great deal of overlap. I think it is our feeling that information which is necessary before one can enter a decision-making process is identical for both internal and external review of graduate programs.

A little over a year ago at the urging of a significant portion of the membership of this group, the Council of Graduate Schools established a task force on internal review. This task force will shortly submit its report to the Council, which hopefully will be published and become available to all of the membership.

Let me tell you a little bit about the thinking of our task force. We have first of all thought of review in terms of internal review and in terms of equality and the need for graduate programs. Perhaps more directly, I should say, we have not thought of review in terms of a fiscal review, so we are not going into the question of the cost of graduate programs. This has to be dealt with at another time by another group within CGS since it is not a part of our mission. Our first step was to write all of the graduate deans in the Council and ask them to submit to us any written information they had on the review process at their respective institutions. I was very pleased and mildly surprised by the response. We were inundated with documents that are being used at various institutions around the country for the review process. These range from some very complete and sophisticated techniques of review to some that were less complete and less sophisticated. On behalf of the task force, I should like to thank all of the people who did contribute this information to us. I assure you it was extremely helpful.

We are planning to submit to the Council a document which may be used as a guide to the review of graduate programs. This will be in the form of an outline which we think will identify all the important items which must be investigated if one is to make a judgment about a particular graduate program. In addition to this outline, will be an accompanying text prepared by the task force to perhaps clarify any questions that might arise regarding the items included in the outline.

Our first speaker will be Dean Frank Horton, from the University of Iowa, who will speak on program review within an institutional context.

Graduate Program Review in an Institutional Context

Frank E. Horton

In the short time available to me this morning I will focus my remarks on the administrative framework, the consideration of the web of relationships which I feel are important to a successful review program, and briefly touch on selected issues which are important in carrying out the review process. By design, my comments will be general since I am aware that many kinds and sizes of colleges and universities are represented in this audience and that organizational structure varies significantly from place to place.

For many reasons, it is likely that graduate program review, departmental review, collegiate review, and institutional review will be a part of post-secondary education for a long time to come. I think it fair to say that the call for accountability, if not increasing in intensity, is at least a constant force within the university environment, particularly in these times when inflation and tight budgets require explanation of decisions to faculty, students, and staff constituencies. While in some instances the call for accountability may be petty, in the main, university administrators have always been accountable to the Regents, to the faculty, to the students, and to the public. The general economic malaise has made for more difficult decision making in the past few years, particularly in those institutions which can no longer count on expanding budgets to meet existing needs, much less new ones, and are now required to engage in the internal reallocation of funds.

Certainly of no little import in the growing necessity for program review is the addition of state-wide coordinating boards in the vast majority of our states. This added administrative level, sometimes coming in conjunction with the state systemization of formerly autonomous campuses, has led to a quantum increase in data flows and reporting mechanisms.

As all of us are aware, many aspects of graduate education cannot be measured or easily quantified. Certainly one of the most difficult elements to measure is that ill-defined but much talked about parameter known as the quality of a program. In addition, statistics are incapable of providing assessments of program goals, dreams, and the institutional impact of new program objectives and directions.

Conceptual Bases of Program Review

I believe it important that each college or university set out a rationale for its review process. Clearly, one of the most important purposes of systematic review is to help clarify strategies and actions which will lead to improvement in the various programs of an academic unit, and is not a preliminary step in the termination of programs. Few graduate deans, indeed few

graduate faculties, could identify programs which could not be improved. Orderly and rational change is a requirement for any academic program which strives for excellence. The review process is only one mechanism for identifying areas of improvement within a graduate program.

Note that I said program review is only one mechanism. Academic planning in the broadest sense requires that parallel activities focusing on program development be initiated and maintained. Reliance on review as the *sole* activity upon which change is initiated places enormous pressures on reviewers and the academic units being reviewed and thus is counter-productive. The development of regularized academic planning and priority-formation process is a necessary parallel program. Such a program allows for continuing communication between academic units and all administrative levels and helps to insure orderly change in which faculty and administrators are aware of common means and ends. The principle simply stated is that review alone should not be relied on to establish all required flows of information between units and administrators.

A third principle is equally simple and is based on the assumption that it is the responsibility of each graduate faculty member to review the programmatic activities of his unit on a continuing basis. Most faculty do review their own activity, but easily overlook their role vis-à-vis the department and the more general consideration of program objectives and the evaluation of the methods employed to achieve them. Faculty members and academic units should constantly be challenged with respect to their goals and the methods and techniques used to achieve them.

A final principle is the requirement that the review process be initiated as a continuing activity within the university. Crash programs of review will in all likelihood create chaos and in most instances generate an information overload which cannot be appropriately analyzed by university administrators. Through repetitive review the results of actions taken to improve programs can also be assessed, an extremely important input to academic management.

Administrative Bases of Program Review

I now turn to a discussion of administrative considerations in carrying out program review which I believe to be important.

Preconditions

To be successful, intra-university program reviews should and must be fully endorsed by the president of the university or college. Without a clearcut mandate from the president to carry out program review, administrators at all levels are placed in a difficult position. If the president does not see the value and pertinence of program review, the process will quickly become a useless appendage to mechanisms the president and his or her immediate staff feel are more appropriate.

Further, the president and the vice president for academic affairs should carefully weigh existing organizational relationships to insure that resources are wisely used in the review process. Thus, consideration of overlapping administrative responsibilities as well as the question of an overall departmental review versus a separate undergraduate and graduate program review should be assessed in order that responsibilities are clearly articulated.

Of particular importance to the graduate dean is the fact that the vast majority of graduate programs are imbedded in all other colleges of the university. This factor alone can create difficult problems with regard to review responsibility and accountability. In fact, most graduate deans do not have the budgetary control necessary to act on recommendations which have fiscal implications. Thus, if the graduate dean is given full responsibility for graduate program review and resulting programmatic changes, relatively unique administrative and fiscal arrangements would have to be implemented at most institutions. In many instances it would seem that both the graduate dean and the appropriate collegiate dean should collaborate in the review process.

Whether or not separate reviews should be carried out for undergraduate and graduate components of programs is certainly an interesting subject for debate. However, at most institutions the faculty that teach graduate students also teach undergraduates. Resources utilized at the undergraduate level are often not available for use at the graduate level, and vice versa. I personally think departmental review is a sound approach which minimizes the total cost associated with program review.

Finally it is important to stress to all concerned that closure is an important aspect of the review process. One of the most frequent questions asked by review committee members is, "Will anybody read and respond to the review upon its completion?" Put simply, the faculty members want assurance that they are not going through a time-consuming exercise to generate a report that no one will act upon.

In summary, then, there should be a university-wide commitment to carry out the review process, administrative overlaps should be resolved directly, the scale of review should be clearly specified, and a closure procedure adopted.

Administrative Relationships

While areas of overlapping responsibilities should be addressed prior to implementing review policy, operational aspects of vertical and horizontal relationships with other university administrators must be defined.

Since graduate colleges span many disciplines in different institutions, arrangements with deans of colleges having primary fiscal responsibility for academic units are extremely important. One may reasonably expect that any review policy will be sufficiently flexible to permit varying the administrative procedures between units to be reviewed. Private meetings with each collegiate dean should be held. The consideration of unique

problems in carrying out the review in different collegiate units pays handsome dividends. Such issues as which programs should be reviewed and when, how the reviews should be carried out, the merit of reviewing several programs at the same time, the utility of arranging timing so that reviews will coincide with the visit of accreditation teams, who will appoint the committee, how many off-campus members should be on the committee, who will pay for off-campus members of the review team, who will collect or organize data to be supplied to the committee, are just some of the issues which can be discussed and resolved in such meetings.

It is not unlikely that the graduate dean will have to initiate these meetings, since often he or she will have a greater number of program reviews than any other dean in the university. It should be noted that the administrative burden of reviewing large numbers of programs is not insignificant.

In addition to horizontal relationships, vertical relationships are also important. Continuing interaction with the vice president for academic affairs or provost is necessary. The vice president for academic affairs may well have a timetable for certain reviews which coincide with his or her needs, and arrangements for the review process many have to reflect that need. In special instances, resolving specific problems of review between the graduate dean and the collegiate deans may require lengthy discussions with the chief academic officer.

Similarly, departmental executive officers should be informed fully as to the purposes, methods, reporting requirements, and timing of the review process. It would be well worth your time to spend a full meeting of the departmental executive officers discussing the review process especially since a minimal amount of work will have to be carried out by the department undergoing the review process. If self-studies are not required of the department, basic data housed in the department must be acquired for the review team's evaluation.

The graduate council should also be fully informed as to the nature and purposes of the review process. It is probable that you will need their advice and support in those instances where review recommendations have serious and lasting consequences.

The more open and frank the discussion with administrators at all levels and with departmental executive officers and faculty, the greater the probability that a review program will be viewed positively and result in a minimum of administrative miscues. I would strongly urge that a written general statement be prepared by the graduate dean's office which sets forth the general purpose of the review process from the perspective of the graduate college and to underscore the specific elements of the program which should be evaluated. In this way, departmental executive officers, graduate faculty, and students who request information about review can easily be informed.

Carrying Out the Review

Our experience at Iowa has shown that it is extremely helpful if the graduate dean meets with the review committee prior to their carrying out the review. This informal discussion helps provide further clarification of method and specific issues to be addressed by the committee.

It has been our experience at Iowa that the committee would like to know if the graduate college has specific concerns about a program under review. In all honesty, we have attempted to deflect this question whenever possible so that our own biases are not reinforced by the committee.

Meeting with the committee also allows the graduate college to explore methodologies which have worked well in the past and those that appear to be counterproductive. You should remember that very often the committee is made up of individuals who have not previously participated in program reviews, and faculty members are often apprehensive.

The committee should be encouraged to carry personal interviews with departmental executive officers, faculty members, and students within the program. This element of the review process in reality has probably produced the most fertile information for the committees at Iowa. During this interview process the committee should meet reasonably frequently in order to share information and develop specific lines of inquiry as they are identified.

Administrators responsible for data handling in various areas of the university should be alerted that the review committee chairperson may be requesting specific data items throughout the process. It is important to inform the committee that they are not data gatherers but should be evaluating the data available. One should not expect faculty review committee members to participate in the compilation of data, other than through the interview process.

Importance of Closure

If the reviews are to be an important input to those responsible for the administration of programs, universities must have a policy of administrative closure. While many models are feasible, I merely relate the policy adopted by the University of Iowa.

Upon completion of the academic review process, the review committee prepares a draft of the comprehensive review report for submission to the appropriate collegiate dean and the graduate college. The collegiate dean and the graduate review the draft report. The deans then have the opportunity to request a meeting with the review committee should any clarification of issues related to the report be required. I might point out that one of the most rewarding elements of the review process has been the meetings with the committees alone and in concert with other collegiate deans to explore aspects of their reports. These "debriefing sessions" often provide information which the review committees are hesitant to put into the report and insights which are valuable in developing improvement strategies.

Copies of the final report are provided to the appropriate collegiate dean, the graduate college, and the vice president for academic affairs.

The collegiate dean may distribute the full report to the departmental executive officer and the appropriate collegiate academic policy committee for discussion purposes. The graduate college may distribute the full report to the graduate council if advice concerning the recommendations is desired. Any request for the full report emanating from groups or individuals beyond those cited are forwarded to the vice president for academic affairs.

Upon receipt of the final review report prepared by the faculty review committee, the collegiate dean and the graduate dean meet with the vice president for academic affairs to discuss the review and recommendations.

Once that meeting has taken place, the collegiate dean and the dean of the graduate college together or separately meet with the departmental executive officer to discuss the conclusions and recommendations of the review committee.

The program reviewed may request a meeting with the collegiate dean and the dean of the graduate college at which all faculty members associated with the program under review are welcome to discuss the recommendations of the committee.

The foregoing suggests that the development and implementation of a review process is a lot of plain hard work and requires extensive administrative effort. Before embarking on such a course and expending precious resources a commitment to respond to recommendations is absolutely necessary. In all likelihood the review activities will uncover unexpected strengths and weaknesses, shatter myths, and articulate new realities. A refusal on the part of administrators to address difficult problems in a forthright manner will erode faculty confidence in the process and the administration.

On a more pleasant note, a well-orchestrated program of review will provide keen insights into the needs of academic units, facilitate the development of priorities, and provide one of the fundamental inputs to budgetary decision making. Graduate colleges with their traditional and continuing responsibilities for the maintenance of quality in a large number of programs, and the responsibility for defending existing and emerging programs have much at stake in seeing that program reviews are implemented and responded to in an efficacious manner.

Internal Evaluation: A Challenge for Change

E. Phillip Bollier

When Dr. Gentile inquired some time ago what title I would give this brief paper, I told him: "Internal Evaluation: A Challenge for Change." "Very good," he replied, "a challenging title, but what is your topic?"

Several times since then I have asked myself the same question. My initial answer to Dr. Gentile was a very general one: what I wanted to suggest was that evaluation offered both deans and faculties an opportunity to rethink what we are about and to effect improvements in what we are doing. After all, evaluation is a time-consuming and often tedious process. It should not be simply the accumulation of data to be put into a report to be glanced over once and then filed in the dusty archives of a dean's office. We should not be left when the evaluation study is over simply with the status quo, nor should we be left simply with the status quo patched and mended here and there but still substantially the status quo. To me, significant change seemed so implicit in the very idea of review and evaluation that my title, if rhetorically somewhat hyperbolic, said everything. All I need to add, I thought, were suggestions as to what some of these opportunities for improvement might be.

On second thought, however, I began to recognize that the rhetoric of my title implied another topic as well. I had to recognize the possibility that the status quo is precisely what a lot of people, deans and faculties alike, would be quite pleased to be left with. Whereas I had used "challenge" in the sense of "invitation," many of my academic colleagues might very well view it in the sense of "threat." Nor should these possibilities have come as a belated surprise. We all know, if only because we have all said it a number of times over the past five or six years, that higher education, particularly graduate education, is in a state of crisis. The contemplative quiet of the groves of academe during their prosperous days is now the desperate quiet of a beleaguered garrison under siege. From whatever watchtower we peer, the battalions of our foes advance across terrain already littered with our dead and dying; our federal funds gone, our enrollments peaking out, job markets for our graduates declining, our budgets shrinking, and our ears are filled with hostile battlecries, with demands for this and that: relevance, open admissions, affirmative action, accountability. Certainly, in such an atmosphere of trial, evaluation may seem a threat and not an opportunity, and internal evaluation especially may seem a Trojan horse designed to have us undo ourselves. Have we not been told more than once that if we do not set our house in order others will do it for us? And is it not implicit in this admonition that the order we put our house in must satisfy those who impatiently wait outside our walls?

Well, enough of hyperbole and metaphor—as a quondam professor of English, I still can be carried away by my own words. Nevertheless, it is my second thoughts, not my first, which I would speak about today. My topic as originally conceived was presumptuous. No two institutions are the same, and CGS is constituted of such a variety of institutions that no single formula or blueprint, not even for review procedures, can possibly serve all of us. Who am I then to tell you and your faculties what changes your review and evaluation should challenge you to make? What may seem to me significant changes may have long been actualities at your particular institutions or irrelevant. At best, I could offer some uplifting generalities—and, as a matter of fact, I intend to offer a few such generalities before I am done. The

pertinence of my generalities, however, depends upon a closer look at the implications for the success of internal review and evaluation which I see in the current situation confronting graduate education.

To put my thesis simply, the challenge for change is a psychological one. What we must attempt to change, first of all, is our attitude not only towards change, but towards review and evaluation. The seriousness of the threats to our mutual enterprise which I perhaps somewhat flippantly described a few minutes ago may or may not be real. Our sense of being threatened, however, I think, is real enough, and the horatory rhetoric of a catchy title will not dispell it. Yet if that sense of being threatened is not dispelled, internal review and evaluation may be, indeed, a pyrrhic exercise which leaves us in some ways worse off than we are now. If we wish it to be otherwise, if we wish it to have a change at least to lead to changes which are significant by *our* criteria of the good and not somebody else's, we must do everything in our power to assure that review and evaluation do not seem an internal threat.

My reason for saying this is a simple one. Our faculties, or a substantial portion of them, it seems to me have been demoralized enough during the past few years by changes in our common situation over which we have had little or no control, and demoralized faculties do not function as well as they should either in the classroom or the study or the lab—nor in review and evaluation committees. To permit an atmosphere of threat and distrust to hang over the process can only demoralize our faculties further and increase their natural propensity for paranoia. Faculties who feel themselves under attack will hardly co-operate with good grace in making even those adjustments and changes which hard facts dictate. We can legislate such adjustments and changes, of course, but legislation by fiat leaves much to be desired if we desire a viable institution. Far worse, to my mind, however, is the possibility that faculties engrossed in defending their status quo will be blind to the possibilities of desirable changes which are not mandated by immediate or short term circumstances.

If there is any substantial truth to what I have said, then it seems to me our first responsibility as deans and administrators in undertaking review lies here; to create a sense of mutual trust—an atmosphere of confidence that we all really are working together so that we will be better able to carry out our educational aims after evaluation than before. Nor do I mean by this that we must simply persuade—or worse, attempt to con—our faculties into believing that genuine good should and can result from our efforts. Many of us deans and administrators, I suspect, may first of all have to persuade ourselves. I know from even my limited personal experience as a dean how easy it is to fall into a defeatist attitude about the worth of the plans for the future when each day seems to bring new complications which make our most brilliant ideas either obsolete or irrelevant before we have even put them down on paper. My own files are filled with too many reports, too many projects and plans which are only gathering dust. It is difficult, at times, not to be cynical.

If we deans and administrators become cynical, however, our enterprise is lost. It is lost because too many of our faculties, especially younger members, are cynical already, or if not cynical, skeptical—skeptical not only about the good review can do, but also about our motives in undertaking review. For too many of our faculties we already are adversaries, not colleagues—the agents of boards of trustees or state legislators who, by definition, do not know what higher education is all about. No doubt, I exaggerate the situation. I certainly generalize on a narrow basis of experience and observation. Your faculties may be different from mine or those I have heard about. If so, I envy you. Nevertheless, even though an ideal state of mutual confidence reigns between your faculties and you, unless you have undertaken the kind of intensive review we are talking about you may not realize how fragile a thing that confidence may be when faced with the trauma of review—and I hazard the guess that many of you have yet to face that trauma. Why, otherwise, should we be holding this panel or you attending it?

Take it from me, under any circumstances review is traumatic. It can be much less traumatic, however, if your faculties are as convinced as you are that the review is necessary to achieve ends you both agree upon. That truism I would be embarrassed to state were it not for the fact that at Tulane University we had to learn the hard way how true that truism can be. Tulane, as some of you may remember, was the first major graduate school to suspend some Ph.D. programs way back in 1968. The internal review which led to the decisions was an *ad hoc* one conducted in an atmosphere of crisis which the faculty had not been prepared to share in time. Although there was faculty involvement in the review, and even in the decisions, it was not, in retrospect, sufficient to allay the wide-spread conviction that the administration had acted arbitrarily. The result was that whatever confidence the majority of the faculty had in the administration was lost, and for the next several years any proposal for change advanced by the administration was greeted with suspicion, a suspicion best described as sullen, accompanied by a tacit refusal to co-operate except under duress.

I am happy to add that today this situation has substantially changed, but not only did it take time and effort for us in administration to win back the lost confidence, but many desirable, even necessary reforms, reforms which depended upon active faculty co-operation, were delayed for years. What we have done since 1968 is to lay our cards on the table and invite the faculty not only to inspect them, but to reshuffle the deck and lay *their* cards on the table. Subsequent internal review has been both interesting and rewarding. The very faculty members who would have been most vocal in opposition to a dean's decision about this or that have been the very ones to be most hardnosed in presenting virtually the same decisions as their own. Would you believe that it was a faculty committee which recommended, in one instance, that the University declare a state of financial exigency so that tenured faculty could be dismissed, and that it was the administrators who had to suggest to them that there were other ways of balancing the budget?

From this experience, I draw the two or three general conclusions which I promised earlier. The first, by now, should be obvious. For review to be meaningful, both faculty and administrators should be fully agreed from the beginning about the purposes of review, its procedures, and its probable consequences. This means, above all, complete candor upon the part of the administration. If, for instance, the reason for review is financial, as it was at Tulane, the administration should begin by opening its accounts to the faculty. Most faculty, with the possible exception of mathematicians, can add and subtract, and even simple arithmetic can do wonders. The second conclusion may not be so obvious. Ideally, review should not be a one time thing, nor should it be merely periodic, every five years or so. That is to say, the most effective method of removing review from the crisis syndrome is to establish it as a continuing, everyday fact of academic life.

Granted, on an annual basis, full-scale review of any given program in the university context is impossible, much less such a review of all programs, especially in a large multi-university. It is possible, however, to establish some sort of university-wide reviewing body with both faculty and administrative representatives, supported by some sort of central data collecting system, which is in a position to monitor all programs on a continuing, if not a daily basis. At Tulane, admittedly, our efforts in this direction remain *ad hoc*, but a recent recommendation from one of our faculty-administrator *ad hoc* committees is that a centralized curriculum committee should be set up to pass on all curriculum proposals which affect our two liberal arts and sciences undergraduate colleges and the graduate school. This to my mind is a step in the correct direction. It means centralized control only in the sense that a central body representing several divisions of the university, and both faculty and administrators, will be continually aware of what is going on in these divisions in respect to curriculum at least and, therefore, will be in a position to make recommendations, even if it does not have the authority to enforce them, about the most effective way to allocate the universities resources in respect to curricular matters.

My third, and last general conclusion, is both rhetorical and horatory once again. The challenge to change is the challenge you are challenged to make. Change for its own sake is pointless, but the necessity for significant change is a constant in academic, as it is in human existence. To meet this inevitable challenge, review and evaluation is an absolute necessity if we are to have a voice in determining what changes should be made and not have them thrust upon us. To ask, even to hope, that all of us can agree on what changes are desirable on the basis of a coherent philosophy of graduate education common to us all is a theoretical dream. Perhaps, however, all the constituents of each institutions can agree. If so, then at least the challenge for change will be a challenge in the sense I originally intended—and not a threat.

Interaction of Research and Graduate Education

John R. C. Morton

I do not think that there is any substitute for quality graduate education and demanding the best out of each student. Neither is there any substitute for having a quality faculty, a quality graduate student body, a quality physical plant, and a quality infrastructure. Unfortunately the "high quality" budgets of the past are gone and this makes the essentials of higher education harder to come by. One can liken Sputnik to General Patton's "Red Ball Express" in the way it came to the rescue of the "troops" in higher education from the starvation budgets of pre-World War II days when higher education was subsidized by low faculty salaries and inadequate physical plants. That is known in Britain as "genteel poverty." With inflation getting out of hand and the economy slumping into a recession, which means diminished tax receipts, I await the day when one of our governors will quote Churchill by saying "All I have to offer you is blood, toil, tears, and sweat." We have already had a taste of that in Illinois, and I do not look for another Sputnik to ease our load.

When I first took on the task of writing this report I was somewhat at a loss as to where I could begin. It was not until I received a report issued by the House Committee on Foreign Affairs entitled *Brain Drain: A Study of the Persistent Issue of International Scientific Ability*. In its 272 pages this publication analyzes the weaknesses of the LDC's (lesser developed countries) and by reflection, the strengths of our system. While it stresses the scientific aspect of the "brain drain," I find it also applicable to the other disciplines in higher education.

A quote from page 111, I think, summarizes it very well:

"The United States is a "center of excellence," a term used by students of brain drain to define ideal conditions for scientific development. All components of these conditions that are lacking in the LDs and often wanting in many advanced countries of the West are amply supplied in the United States: economic resources and research support; universities and scientific institutions; laboratories and experimental centers; great teachers; a communication network connecting all professional organizations into a composite grid; a cooperative spirit among the scientific institutions, industry and government—in brief, the total infrastructure for the development of science and technology."

From page 112: "It was this intellectual climate and accompanying rewards for creative attainments that produced a magnetic 'pull' so powerful that Professor Brezesinski could conclude 'America's professional at-

traction for the global scientific elite is without historic precedent in either scale or scope.' " After reading that I suppose we could settle back, "rest on the oars" and like Dr. Pnagloss say, "We live in the best of all possible worlds." If we do, our institutions will rapidly go down hill, as our leaderships in the world today can be traced directly to the excellence of our educational institutions and its products. This country has been richly endowed with all kinds of natural resources, but these would have lain inert in the ground without the trained manpower to put them to the best possible use.

Charles J. Hitch, soon to retire as President of the University of California, in an interview reported in the *Christian Science Monitor* (Nov. 18, 1974), was quoted as saying:

"The bulldozer breaking ground for new university libraries, dormitories, and classrooms will be an increasingly rare sight in the U.S. as campuses emphasize economy—and quality of instruction."

At this point in time the budget cuts of the past few years have not been lethal to our institutions, a few good years could put that right. If continued, these cuts could mean that the institutions not classified as "excellent" would become weaker as their physical facilities deteriorate. For example, stringent budget cuts in books for the library would mean inadequate holdings and a consequent reduction in creative teaching and scholarship. Aside from the quality of the faculty itself, the library is probably the most important factor in supporting advanced programs.

Related to the library are some other factors necessary to maintain quality in the advanced programs: Carrels, reading rooms, special graduate collections, and seminar rooms for faculty and graduate students. When these are in plentiful supply there develops a scholarly attitude and spirit which such a professional center engenders. Without them, there is a loss of that intellectual interest which is so necessary to keep a graduate program striving for excellence.

I have chosen the library as an example of what restrictive budgets can do to the spirit of a university. Likewise, these cuts have a more pervasive effect in that all areas of the university are damaged. Research suffers as equipment and commodities come into short supply and existing items tend to be cannibalized. A shortage of secretarial help means that adequate communication is endangered and scholarly papers might not see the light of day. Travel funds are cut, which means that attendance at conferences, symposia, etc., is reduced with a concomitant loss of knowledge. Even sabbatical leaves for the "recycling" of faculty are threatened with elimination at some institutions. To quote one of the Watergate defendants, the above reads like a "catalog of horrors."

Rereading the quote from page 111 of the "Brain Drain" in the light of what I have just said makes one realize that, if we are not careful, we could lose our position as a "center of scientism." How can we rectify this slippage?

My answer may be anathema to some but we simply must become more political. As academicians we have been guilty of "resting on our oars" by not going out and selling our programs to the state legislatures and the public as vigorously as we should.

What has this to do with the internal evaluation of programs? It means that the process must become ever more vigorous and searching as the money supply becomes tighter. Weak programs may have to be sacrificed and "empire building" eliminated. "Inter-disciplinary" is one of the key words these days, but building an interdisciplinary program is fraught with problems of which I am sure most of you are aware. It is an unfortunate fact in academia that each department has always acted as if it were the only one of import on the campus and each university has acted as if it were the only one in existence. Unless we put our house in order, off-campus political groups will do it for us and their style of evaluation will leave us in a state of shock.

Reviewing Existing Graduate Degree Programs in Washington

James M. Furman

In view of the several days of meetings now nearing completion it may be unnecessary for me to recite once more the motives for reviewing existing degree programs in graduate education. At the same time, rather than begging this central question, I must run the risk of redundancy and talk about them a little.

And without reflecting upon the logical partitioning of this morning's activities, I shall suggest that the evaluation of graduate programs, or virtually any other facet of higher education, operates best when the external and internal agents of change conspire to a commonly agreed end.

And finally, if not centrally, I shall attempt to describe the workings of one graduate program review project, that operates in the state of Washington, and the results achieved thus far, emphasizing both the nature of the internal-external review segment and the critical balance between quantitative and qualitative information achieved in that project.

It has been my observation, shared by many here, that graduate program review has become an important component, perhaps the predominant component, in the current national preoccupation with accountability in higher education.

From the perspective of the layman, the individual who may have been shaped, or perhaps mishaped, but is no longer really involved in higher education, graduate programs are an automatic focus for anyone trying to reduce expenditures for higher education.

This is understandable; anecdotal evidence abounds; PhD's driving taxi cabs in Boise, programs with a handful of students enrolled; professors

who spend much more time in laboratories than classrooms or conversely students and teachers working together in a one-on-one relationship, or even more, graduate programs with no students at all.

The layman sees little evidence of interest in regionalizing graduate programs as he watches academicians in his state moving to what appears to be the development and offering of a complete "set" of graduate programs within the state's borders. Related to this, he sees graduate programs becoming increasingly specific, with his understanding of the range of subject matter actually encompassed relating in inverse proportion only to the ability of professors to think up new endeavors. In spite of the prevalence of national statistics and recommendations to the contrary, the rush to achievement of status through authority to offer doctoral programs continues unabated in many states. Perhaps most distressing of all, these endeavors rest on a foundation of existing graduate programs—new programs are not bought at the expense of the old. I can recall reading a year or two ago of a team of Chinese anthropologists sent to the United States to examine graduate education. After two weeks they died of uncontrollable laughter. They were buried at Berkeley with full academic honors, after receiving honorary doctorates, posthumously.

All of these statements are partly true, and none, of course, are entirely true. Which is to say, graduate deans may feel a little paranoid, but there is someone out to get them.

But apart from the dubious merit of these incitements, it is clear that legislators, governors, citizens, and even academics, *feel* there is an important and compelling need to reexamine graduate programs, and it is equally clear that some of this feeling is well founded. There are too many Ph.D.'s in some fields, and there will be more; by extension or maybe intention there are too many doctoral programs in this country (although we can document the fact that this is not the case with any of our institutions or states). There are too many distinct types of graduate programs, and the requirements for a degree in these distinct fields too often fail to relate to the interest of the student or to the student's future career.

These points are not lost on the political decision-makers, but they also are not missed by those who teach and administer colleges and universities. Thus, program review often does commence within institutions. In my state, for example, the University of Washington has long been involved in the development and implementation of an internal program review process; several of the concepts employed in the Washington Council on Higher Education's process were borrowed from discussion drafts at the University of Washington.

In any case, the importance of this activity is evident in the support it receives in a variety of quarters. In reading Kent Halstead's recent *magnum opus* on statewide planning, I could not help but be struck by references to program review as a legitimate planning activity: perhaps an even more significant point is the general concession that this should be the responsibility of the state planning agency.

Such a view was prevalent among legislators involved in the creation of the Washington Council on Higher Education in 1969. The Council is specifically empowered by law to review and recommend proposals both for new programs and the elimination of existing programs. Beyond this, as the Council became operational late in 1970, the fact that legislators were concerned with the exercise of this authority was stressed, both in my conversations with many of them and in conversation with members of the Council, both citizen and educational representatives. Accordingly, the review of existing programs became one of the primary activities of the Council in its infancy.

I should digress here for a moment. An agency such as the Washington Council, a body that is coordinative rather than governing in its functions, is to a large extent caught between two sometimes competing constituencies. It is proper that political decision-makers let their opinions be known, in this case the opinion that there were too many programs being funded each year. But it is not necessarily proper that this be taken as an unqualified mandate to simply go in and recommend the wholesale elimination of programs on the basis of often simplistic quantitative criteria.

There is another constituency a coordinating agency must satisfy: this is the educational constituency, and here I am not referring solely to the educational institutions that comprise a public system of higher education. I am also speaking of the consumers, the citizens of the state who will benefit from those educational offerings, both directly, as students, and indirectly, as employers of the presumably educated persons who are the products of graduate schools. The most effective way of balancing these perhaps competing pressures is through a review process that is stringent in its direction but also is responsive to the nuances of the educational process. In Washington this balance was a constant concern. To a certain extent, as I reflect on our experiences as we tried to strike this balance, I find that I feel like a series of tentative conclusions. At the same time, however, I feel that in the main we did achieve this.

For our office the review process began in December 1970, with the decision that it should entail two stages, the first centering on graduate programs, the second on programs offered at the undergraduate level. The decision to work first on graduate programs was a logical consequence of several factors: their relative cost *vis-à-vis* undergraduate instruction (cost differentials which the Council staff identified in an early report on instructional costs in Washington higher education), their sometimes high level of specificity, their often close relationship to comparatively identifiable professional manpower needs, their sometimes low enrollments and degree conferral patterns, etc.

We were also struck by the existence of approximately 430 graduate programs in the five public colleges and universities of Washington (there can be and is disagreement on the definition of a program—something new and different. Here the reference is to distinct degree options in the range of subject areas.).

At the same time, in 1970 the business of reviewing existing programs was new (in Washington, for example, the first recorded instance of the termination of a graduate program occurred that year—graduate education has been available in the state since the 1870's). At the same time, there was no evidence that others had done much in the way of graduate degree program review. Our survey of activities in other states revealed little beyond discussions at the conceptual level (discussions that were nonetheless helpful). With this in mind we decided to begin with the last difficult assignment—dividing our review stages into phases, we made the focus of the first phase of the graduate program review effort that of programs with low productivity and low degree conferral rates. I hasten to state that we used productivity figures for identification purposes.

Our initial efforts concerned identification of the cutting edge: what should be considered a program with low productivity? At this point many of our judgements were contaminated with an element of subjectivity. For example, we discovered that about 80 percent of the graduate programs in the state colleges would be included for review if a minimal productivity factor of five master's conferrals per year were employed. This was a little extensive for a first phase effort, and we decided to work downward from here.

We finally agreed upon three master conferrals and one doctoral conferral (for doctoral programs) as the cut-off. We also employed enrollment minimums that accorded with the (individual) institutional ratio between enrollments and conferrals in "viable" programs.

On these bases, 137 programs were identified for review in the five colleges and universities. Of these, 117 failed to manifest adequate productivity either in terms of enrollments or conferrals, and 20 had strong enrollments but low conferral rates, suggesting a mismatch between the two factors.

Working then with the graduate deans of the institutions involved, as we had been throughout the process, we developed a questionnaire we felt would get for us the information necessary to an understanding of each program. The questionnaires would be completed by the departments in consort with the graduate schools of each institution. A specific recommendation for continuation or termination by the institution was to accompany each response.

The questionnaire was lengthy and detailed. It sought both objective and subjective information on: program objectives, program need, program requirements, effects of discontinuance.

A separate response was to be prepared for each program and returned to the Council with a recommendation by a specified date.

The institutional response was gratifying: The completed questionnaires were returned, along with recommendations for the termination (sometimes associated with recommendations for consolidation) of about twenty-five programs.

Upon receiving the responses, copies were transmitted to a local computer consulting firm for analysis of the quantitative program indicators (enrollments, conferrals, drop-out rates, program resource costs, time to

completion, outside funding, etc.) The consulting firm was also asked to rate each program on a four-point scale ranging from strong need to continue to strong need to discontinue.

Upon receiving the print-outs, and without looking at the ratings, the staff analysis, an analysis that would involve intensive review of both the objective and subjective indicators, proceeded. The staff (three people working independently) made its review and compared its findings; the consensus was then compared with the ratings of the consulting firm, whereupon we found general agreement on recommendations for about 80 percent of the programs.

A detailed series of initial recommendations were then directed to the Council, which, in turn, directed the staff to forward them to the institutions and conduct a series of field meetings to negotiate findings. The initial staff recommendations called for termination of about sixty programs, conditional continuation (with subsequent review occurring two years later) for about forty, and unconditional continuation for the remainder.

During the meetings these recommendations were modified slightly. The staff was not immune to pleas for mercy.

Perhaps more important, the period of negotiation facilitated the development of consensus with the institutions. Accordingly, when the final staff recommendations were made, except in a very limited number of cases, the institutions were in concurrence. The final recommendations called for the termination of fifty programs, consolidation of several additional programs into six new broad approaches, conditional continuation for about forty, and continuation for the remainder.

These recommendations were implemented at the institutional level in their entirety, thereby completing the first phase.

Since about the first of this year, the staff has been involved in the second phase of the graduate program review. In this case the focus is on ostensible duplication (ostensible in that it can be argued that there is no such thing as truly duplicative programs). By this we mean programs of which there are more than one in the public institutions of higher education in Washington. In this case our sample is considerably larger, involving about 250 programs. The process we are employing is similar to that utilized the first time through, although there are some differences in particulars (we are using a new questionnaire, for example).

This process is not yet completed. The institutions returned completed questionnaires for all programs by the end of August. These responses were reviewed by the staff and returned, as appropriate, for additional information or clarification. About 80 percent of the second responses are in our office, and the review process is commencing. We anticipate the distribution of initial staff recommendations around January, and we expect to follow a negotiation process similar to that employed previously.

At this point, I suppose I should attempt to summarize what we have learned. I think it safe to say that we have gained experience not only in how to review existing programs, but in a process that can be employed to bring such a review to a nondestructive conclusion. Obviously, programs have

been terminated as a result, and others will be in the future. Further, this has been accomplished at minimal cost to the state. We did, for example, originally consider the use of consultants, and we may still employ consultants in particularly difficult cases (technically we did use consultants in that we sought outside computer support), but it is our feeling that an effective review can be conducted by a coordinating board staff with the assistance of those at the institutional level. Perhaps the major point that needs to be early established is that the coordinating board is serious about program review, and it intends to proceed to that end. Once those at the institutional level accept this, it becomes their obvious interest to cooperate. I believe we have had and will continue to have such cooperation in Washington.

The Ph.D Evaluation Process: The New York State Education Department Experiment

Albert H. Berrian

In the way of background information for this discussion of New York State's effort to meet the needs of doctoral education, interest in education at this level grew out of several interrelated concerns. The first among these was the dramatic rise in the cost of doctoral education, which was going up geometrically so to speak,¹ while charges to students were going up arithmetically. This was coupled with slackening financial support to institutions, especially private ones.

Private institutions in the State of New York carry the burden of doctoral education and, according to projections, will award 65 percent of the State's Ph.D.'s, even by 1980. The second concern was the growing list of publications having to do with a declining market for Ph.D.s, in the face of growth within the Ph.D. production system. There was the David Breneman dissertation², for example, which led to his later advocacy in the *Educational Record* of specific changes to aid graduate education in its "adjustment to a less supportive environment".³ Finally, there was the state's enthusiasm for interinstitutional cooperation, which, in the absence of legislative and financial support, was undergoing transformation into the broader concept of regionalization.

¹During 1966-70 operating expenditures at colleges and universities increased over 105 percent.

²David Breneman, *The Ph.D. Production Process: A Study of Departmental Behavior* University of California, Berkeley, 1970.

³David Breneman, "Decisions of the Decade for Graduate Education". *The Educational Record*, Vol. 54, No. 3, 1973.

The New York State Education Department, the overarching body having jurisdiction over the state's four higher education sectors¹ reacted to all of the above in a series of planned stages. The Higher Education Planning Office got the first *crack* at the problem and sub-contracted to New Jersey's Glen E. Reeling for some basic research. The result of this was the 1970 report, *Doctoral Education in New York State: Current Status and Projected Needs*. This report was inherited, almost immediately, by the director of the Office of Science and Technology who, in fact, became staff director for the Regents appointed Fleming Commission.

The Fleming Commission was appointed following the placing of a one year moratorium on doctoral programs to permit a breathing period for reorganization and redirection in doctoral education where warranted. By the time of the moratorium, the Regents and the Commissioner had been convinced that changes in the educational environment reported on by insiders such as Reeling, Peterson, and Waggett, and outsiders such as Kidd, Carter, Balderston, Radner, and Breneman were real and of a lasting nature, and called for adjustments over the short-range.

The year of the moratorium was 1971-72. During this period, Robben W. Fleming, President of the University of Michigan, was asked to coordinate a comprehensive study and assessment of the status of and resources for doctoral education in the state. This endeavor was underwritten by a Carnegie Corporation grant. Fleming's Commission, which began the first of five formal meetings in January 1972, was supported by State Education Department staff, including the Deputy Commissioner for Higher Education and Planning, who acted as executive secretary for the Commission. Background papers were prepared for the Commission's work, both at Michigan University's Center for the Study of Higher Education and in Syracuse University's Department of Higher Education. One charge to the Fleming Commission was to provide the Regents and the Commissioner with guidelines and recommendations for establishing policy that would guide the future development and restructuring of graduate education. A second charge was to define criteria for evaluating the quality, effectiveness and productivity of doctoral programs within the context of (1) the need to re-examine and re-define the state's goals in doctoral education and to state how these goals are related to the needs of students, faculty, the university, and the general community; (2) the need to organize doctoral education so as to provide the kind and quality of programs necessary to attain these goals; and (3) the need to put into reasonable balance the future demand for doctorates and their rate of production. During the period that this charge was being carried out, the state's advisory council on doctoral education, made up of the chief graduate officers of State and City University central administrations and the graduate deans of the state's leading doctoral granting institutions, was kept informed of developments on a periodic basis.

¹Private colleges and universities, State University of New York, City University of New York, post-secondary proprietary schools.

The Fleming report, *Meeting the Needs of Doctoral Education in New York*, was ready in January, 1973. By August of that year Regents Position Paper No. 19, bearing the same title as the report, was issued as a statement of policy and proposed action. The paper dealt with costs and financing, concluding here that doctoral education (with its average cost of \$8,600 a year) should be carried out within the framework of a federal-state shared responsibility. The paper dealt further with the quality of doctoral education, concluding that new program growth was resulting in a dilution of quality and that there was a need for selectively concentrating resources in support of quality programs. The paper also dealt with future demands and resources, and came to the further conclusion that there was little justification, in view of a sharply declining demand for doctorates in the academic sector, for establishing additional programs of a traditional nature or significantly enlarging capacity in most fields. Emphasis, it was determined, should be on increased flexibility and capacity for responsiveness to changing student and societal needs and demands.

Recommendations of the Fleming Commission were endorsed and the following policy adopted:

- (1) All doctoral programs in the state, in both the public and private sectors, shall comprise an interrelated, statewide resource for doctoral education.

This principle is fundamental to guide the future development of doctoral education in New York. It dispels the idea that every institution must aspire individually to offer a completely comprehensive set of doctoral programs, removing that spur to unnecessary and costly duplication and competition. The Regents are convinced that the coordination called for in offering doctoral programs will increase efficiency in the use of the state's resources, will raise the quality of programs, and will sharpen their focus and purpose.

- (2) All doctoral programs shall meet, or show clear potential for meeting, standards of high quality and demonstrated need.

Doctoral education, the capstone of our educational system, can be justifiably sustained only if it meets high standards. The attributes of a quality program are widely known and accepted. Among these are the level of faculty research and scholarship; the effectiveness of and attention to teaching and counseling by the faculty; the caliber of students; the caliber of dissertations; the adequacy of laboratory, library, and other facilities; and presence of supporting and related programs. Need is broadly conceived and encompasses such aspects as the need to develop and disseminate knowledge, the needs of students and of institutions, and the needs of society for skilled manpower and for attention to its problems.

- (3) All qualified New York students shall have equal access to doctoral education at all institutions in the state.

Economic and cultural factors should not bar realization of this policy. The Regents have already announced the need for equality of

access to high quality educational opportunity. It is once again emphasized in conjunction with doctoral education. This is not only in recognition of the social justice it proclaims, but also in recognition of more general Regents policy in the area of educational equity. If doctoral education is to be regarded as a statewide matter, transcending public-private divisions, then barriers to qualified students arising from higher attendance costs at all institutions must be lowered. This will broaden the choice of doctoral programs for students with limited financial resources. Implied is responsibility in both the public and private sectors for the education of all students who meet admission standards.

Specific objectives were developed that correlated with policy. In summary, these include: statewide coordination of planning of doctoral program offerings at all institutions; the concentration of programs, where appropriate, at a limited number of institutions to gain the advantage of mutually supporting, related programs and superior physical and financial resources and faculty and student competencies; periodic and systematic review and self-assessment by institutions of their doctoral programs; review and evaluation by the Commissioner, in close connection with out-of-state consultants, according to criteria specified by the Regents; financial aid to qualified students based on need; the elimination of barriers to minority groups members and women; and continuous taking into account of shifts in the kind of education and training appropriate for students' future careers, and the changing needs of society that doctorates are expected to serve. The Regents decided that the specific criteria for evaluation would be best developed in conjunction with a pilot program of two disciplines.

The above having been accomplished the problem was delivered to the newly-established Office of the Graduate Project, which worked in conjunction with the Office of the Associate Commissioner for Higher Education. The Graduate Advisory Council served the Commissioner through the holder of this office. The process for evaluating doctoral programs and its validation by the field then became the problem of the principals just cited.

The validation of the evaluation process, it was concluded, should be left in the hands of persons whose programs would be affected. The statewide Graduate Advisory Committee was consulted on the possibility of its expansion, therefore, so that out-of-state consultants and the smaller doctoral granting institutions could have a voice in matters concerning doctoral studies. The Committee agreed to this and, following its expansion, became known as the state's Doctoral Council. With the Office of the Doctoral Project providing staff support, the Council made the final determination on what the evaluation procedures would be. The Council critiqued, modified and also passed on the guidelines for evaluation reports (to be turned in by subject matter area consultants and the review panel). The Council's decisions were made, of course, within the framework of Regents policy as spelled out in Position Paper No. 19.

The first step in the evaluation process involves a determination of the subject matter areas to be reviewed. During the first year, the subjects were

history and chemistry. Presently, they are English, physics and astronomy. Consultants are chosen in collaboration with the Doctoral Council and Advisory Committee (these consultants are drawn from out-of-state universities and business and industry where appropriate). Institutions to be visited have the right to select their consultants from an approved list. A questionnaire is then sent to the institutions to be visited, the purpose of which is to supply information for consultants' study prior to their visit. The questionnaire is organized into seven sections, having to do with: program objectives; program structure; program financial support; faculty; students; facilities and services; and comments and suggestions. Under the latter item, critical comments and suggestions about the questionnaire itself are solicited. The institutions involved have the option, if they feel that they have already assembled data substantially the same as those requested in the questionnaire, of submitting those data in lieu of the filled-out questionnaire. The data supplied are reviewed by the advisory committee, which then recommends the number of consultants and their areas of specialization for site visits. Following their visit, the consultants report individually on their findings. Their chairman then prepares a single report. The institution is permitted to respond to this report, both in terms of possible technical errors and general misinterpretations.

Programs in each discipline are then reviewed and rated by a rating committee, which is supplied with each department's response to the consultants' report. Other materials, such as national ratings, previous studies, etc., may be included in the rating committee's deliberations, but the single most important "non-partisan" document is the chairman's report submitted by the visiting consultant team. This report represents a description of the *presently existing* strengths and weaknesses of the program and does not contain a program rating. Programs are rated and placed in categories 1, 2, or 3* by the rating committee. These ratings, none of which mind you, are arrived at with participation from the State Education Department staff, are made known to the Commissioner and the Doctoral Council. The Council holds hearings with institutions desirous of contesting having their programs placed in category 2 (leading to a 3 year probation) or category 3 (leading to program devaluation). The Council then makes its recommendation to the Commissioner who, alone, takes appropriate action with regard to each program. The removal of the State Education Department staff from the evaluation process, once policy and objectives had been arrived at and criteria and guidelines consensually derived, was the key to the validation of the process.

In the way of recapitulation, the procedures for the doctoral project are as follows:

1. A questionnaire developed in consultation with members of the State Education Department, national leaders in graduate education, specialists in the fields to be reviewed and the Doctoral Council (an in-

*Category 1 acceptable, category 2 probationary and category 3 unacceptable.

state advisory group of 13 graduate deans) is sent to the departments involved.

2. Responses to the questionnaire and guidelines for the site visit report are sent to the out-of-state consultants involved in the review.
3. Consultants, suggested by national professional associations and the involved institutions in the state, are approved by the department they are scheduled to visit.
4. A team of two or three consultants makes a two-day site visit and the chairman of the team prepares a draft report.
5. A draft report submitted to the graduate of the institution involved for correction of factual errors.
6. Revision of the draft and its sending to the president of the institution in final form.
7. The president's response both to the points in the report and to questions which he considered important to a complete and fair evaluation of the program.
8. Sending the report of the rating committee in the form of recommendations to the Commissioner and copies of it to the Doctoral Council and to each institution which has been reviewed.
9. A meeting of the Doctoral Council to review the recommendations of the rating committee, to hear complaints from institutions in categories b and c, and to make its own recommendations to the Commissioner.
10. Advising institutions of the Doctoral Council's recommendation in regard to their program and giving a last opportunity to present relevant material directly to the Commissioner.
11. The Commissioner's decision based on the recommendations he has received and any other information he deems appropriate. The Commissioner notifies the institutions individually and confidentially.*

The purpose here has been to give an historical accounting and a description and not to critique the process. Mention should be made, however, of a concern expressed by the public sector, whose doctoral programs are in a state of expansion and are generally not comparable to those in the private sector. The concern is that innovation will not, in fact, be encouraged, that traditionalism will prevail instead, and that new programs meeting the needs of new clients will fare badly in the ratings. Time will reveal the extent to which this may be the case. Hopefully, the outcome will sound a more cheerful note.

*It is important to note that the site visitors are not asked to rate the programs they reviewed. This task is reserved for a special group made up of five members. Two of these people are prominent people in the field who have made no site visits. The remaining three are chosen from the pool of site visitors, their selection being based on not only their expertise in the field but also their experience in administration and graduate education.

The rating committees, looking at the state as a whole and at all the material available on each program, review the programs and place them in one of the Regents

three categories: category a-high quality and need—to be sustained, category b-intermediate quality and need—to be put on probation for three years and reviewed again, and category c-inadequate quality and need—to be phased out over an appropriate period of time. Following the rating, institutions in categories b and c are allowed a hearing upon their request, before the Doctoral Council and in the presence of leading representatives of evaluation committees. The Council reserves the right to revise its recommendations to the Commissioner based on any new evidence that may come out in the hearing.

**Report on the Council of Graduate Schools
Graduate Record Examinations Board
1974-1975 Survey of Graduate Enrollment***

Part I

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Introduction

As a result of the difficulty of obtaining accurate information on graduate enrollments, and particularly trends in enrollments, the GRE Board and the Council of Graduate Schools began three years ago to conduct an annual series of surveys of enrollment of the membership of the Council of Graduate Schools in the United States. The Council membership consists of some 316 graduate institutions who grant either the master's or doctorate as the highest degree. The members of the Council grant 99% of the earned doctorates and 85% of the master's degrees awarded.

This year's survey, like last year's, was divided into two sections, the first of which was distributed in the early fall of 1974 with a request that results be returned no later than mid-November. Data were requested on enrollment as of mid-October for 1973 and 1974; as in the past, not all respondents were able to provide data for each question, thus creating different response rates for different questions. Finally, a new question concerning the number of applications received has been added to this year's survey, and the results are reported later in this report.

It is anticipated that the results of the second questionnaire mailing will be available early in the spring of 1975. In addition, it is expected that a four-year summary of data from Part I of this survey—based on responses from matched institutions representing approximately 80% of CGS institutions—will be available shortly after January 1, 1975.

Sample Description

Survey questionnaires were sent to 316 graduate schools who are members of CGS. A total of 283 questionnaires were returned or an amazing 90% response rate, an indication of the continued high interest among graduate schools in the topic of the survey. Since the primary purpose of the questionnaire was to develop comparative data between 1973 and 1974, responses to questions were included in the analysis only when data were supplied for both years. Thus, the effective response rate per question will vary from a high of 90% for the overall sample to a low of 65% for the new question concerning applications. While this is probably to be expected, the variability does reduce somewhat the value of some questions and makes comparisons across some questions of restricted value.

Comparison of Usable Sample and Base Population

	CGS Institutions		Usable Survey Sample		% (sample of each population subgroup)
	Number	Percent	Number	Percent	
Public	201	64%	182	64%	91%
Private	115	36%	101	36%	88%
Public-Master's Highest Degree	50	16%	46	16%	92%
Private-Master's Highest Degree	28	9%	25	9%	89%
Public-Ph.D. Highest Degree	151	48%	136	48%	90%
Private-Ph.D. Highest Degree	87	27%	76	27%	87%
Master's Highest Degree	78	25%	71	25%	91%
Ph.D. Highest Degree	238	75%	212	75%	89%

Extreme care should also be taken in attempting to compare results of this year's survey with published results of last year's survey insofar as 1973 data reported in the current survey may differ from 1973 data reported last year. There are several reasons for this difference, despite the almost identical number (283 in 1974 compared to 281 in 1973) of graduate institutions responding. First, although the questionnaires and definitions remain unchanged from last year's survey—with the exception of one additional question in this year's survey—and although the actual number of institutions responding remained almost constant, the specific institutions responding in 1974 were not always identical to those responding in 1973. Second, many institutions noted that the data for 1973 which they were able to provide for this year's survey were different from, and better than, the 1973 data which they provided last year. Finally, due to the increased membership in CGS, an identical number of respondents will represent a smaller proportion of total CGS membership.

Despite these limitations, the overall obtained sample (i.e., those submitting usable questionnaires) is extremely representative of the total CGS population. On page 54 are comparisons of number and percentages of several ways of describing the available population and sample. It should be noted that "Master's Highest Degree" refers, throughout this report, only to those institutions for which the master's degree is, in fact, the highest degree awarded. Data for these institutions do not reflect master's degrees offered by institutions which also offer the doctorate.

The percentages shown in the table on page 254—and in Tables 1 through 8 at the end of this report—show response rate based on the number of institutions in CGS; e.g., the 283 institutions providing responses to this survey represent 90% of the CGS institutions and a 90% response rate is noted. Since the sample of institutions with usable data becomes less complete as the complexity of the questions or the difficulty of obtaining the data increases, the number of institutions providing usable data and the response rate that number represents are given for each question in the data presentation.

In addition, several users of this report have expressed an interest in the proportion of total graduate school enrollment which the responding institutions represent and these figures, while approximate, are provided in a footnote to each table. Based upon the results of last year's survey, combined with additional data from the 2nd and 3rd editions of the *Graduate Programs and Admissions Manual*, John Ryan of the Council of Graduate Schools has produced an estimated 1973 total graduate school enrollment for CGS members of approximately 740,000. Using this estimate, it is then possible to report that the 283 institutions which responded to this year's survey represent a 90% response rate (based on percentage of CGS institutions) and accounted for approximately 86% of the 1973 total graduate enrollment at CGS institutions. This latter figure is created by taking the 1973 total enrollment reported this year (638,205) and dividing by 740,000. For subsequent questions, a similar computation has been carried out, removing from the 638,205 the reported total graduate enrollment of each institution which failed to provide a usable response to the question.

Total Graduate School Enrollment for Size Categories, by Institutional Type

(Each size category contains approximately 25% of all institutions of that institutional type)

	(smallest) Category 1	Category 2	Category 3	(largest) Category 4
Public-Master's Highest Degree	0 - 750	751 - 1300	1301 - 2700	over 2700
Private-Master's Highest Degree	0 - 200	201 - 500	501 - 750	over 750
Public-Ph.D. Highest Degree	0 - 1200	1201 - 2300	2301 - 4100	over 4100
Private-Ph.D. Highest Degree	0 - 800	801 - 1400	1401 - 2300	over 2300

Results

The results of the survey are displayed in Tables 1 through 8. The tables present the number of respondents with usable data to each question (i.e., data for both years and for all parts of the question), the percentage that number represents of the total group or of the subgroup, e.g., public, the total number of students reported each year and the percentage change from 1973 to 1974. All data are presented by public, private, and total. In addition, Tables 1 through 4 also present data for institutions classified by means of the *Educational Directory, Part 3*, in terms of the highest degree awarded. These categories are: Public-Master's Highest; Private-Master's Highest; Public-Doctorate Highest; and, Private-Doctorate Highest. This additional breakdown was not applied to later questions because it was not felt to be particularly important or because the differences were too small to affect the overall results.

Finally, all data were summarized by size of the responding graduate school, although these summaries do not appear in the tables presented. Unlike previous reports of Part I—in which size categories were based on artificially assigned limits of 100, 500, 1,000, and 5,000 students—this report bases size categories on quartile ranges by institutional type drawn from Part I of last year's survey. Thus, each size category—ranging from "1" for the smallest institutions to "4" for the largest institutions—will contain approximately 25% of all institutions of any type, facilitating meaningful comparisons of institutions by size which were not possible in prior surveys (in which, for example, the smallest size category of 0-100 students might have contained only 10 percent of the public Ph.D. highest institutions). Size categories used in this report, by institutional type, are shown below; results based on these size categories are noted in the following discussion, where appropriate.

Discussion

A review of Table 1 shows an overall increase in total graduate school enrollment of 4.3% for the institutions reporting. However, when more than the total figures are reviewed, it becomes apparent that the increase is significantly higher (8.1%) at private master's institutions and significantly lower (0.7%) at private Ph.D. institutions. Of equal note, the largest increases in enrollment at private master's institutions occurred in the smallest institutions, with gains of 31.1% and 19.9% respectively in Category 1 (smallest) and Category 2 institutions; similar significant gains were noted in the smaller public master's institutions (18.9% and 13.8% in Category 1 and Category 2 institutions), although the total increase in enrollment in public master's institutions was limited to 3.8% by the unexpected decline of 0.2% in the Category 4 (largest) institutions. Total graduate school enrollment was up 5.3% at public Ph.D. institutions, with increases noted in all size categories. Finally, as noted above, private Ph.D. institutions showed the smallest total increase (0.7%); yet, whereas the increases in enrollment at public and private master's institutions were led by

the smaller institutions, the increase in enrollment at all private Ph.D. institutions was limited by absolute decreases in enrollment at the smallest institutions (Category 1 decrease: 0.4%; Category 2 decrease: 0.5%).

First-time enrollments (Table 2) show a similar pattern, with an overall increase of 7.6%, but with the greatest increase (9.8%) at private master's institutions, where once again the greatest gains were experienced by the smallest institutions (Category 1 increase: 44.3%). Public master's institutions experienced the smallest gain in first-time enrollment (4.0%); once again, as in total graduate enrollment, the greatest gains were experienced at the smaller public master's institutions (Category 1 increase: 7.9%; Category 2 increase: 14.4%) with these large increases being offset by the extremely small increase (0.1%) at the largest (Category 4) public master's institutions. Public Ph.D. institutions experienced an overall increase in first-time enrollment of 9.0%, with increases noted in all size categories. Finally, private Ph.D. institutions showed an increase in first-time enrollment (5.8%) which was below the average increase for all institutions; yet, whereas the smaller private Ph.D. institutions had experienced absolute declines in total graduate school enrollment, these same smaller institutions experienced growth in first-time enrollment which was offset by a decline of 0.7% in first-time enrollment at the largest (Category 4) private Ph.D. institutions.

Table 3 shows responses to a new question added to the survey this year concerning the total number of applications received for graduate study. Because the response rate was expected to be low, data were tabulated both for those institutions which provided data for both years and for all institutions which were able to provide data for 1974. As can be seen from the table, 204 institutions (65%) provided data for both 1973 and 1974, while 233 institutions (74%) provided data for at least 1974.

Results from the comparison of 1973 and 1974 applications for the 204 matched institutions are generally consistent with patterns seen above in total graduate school enrollment and first-time graduate school enrollment in that the largest increases (14.3%) occurred at private master's institutions and the smallest increases (3.1%) occurred at private Ph.D. institutions. Yet, two interesting differences can also be noted. First, public master's institutions, which had experienced relatively small increases in both total and first-time enrollment, showed large increases (13.9%) in the number of applications received, with increases in all size categories. Second, while the large increases in both total and first-time enrollment at private master's institutions had been led by large increases at the smallest institutions, the large increase in applications occurred despite a decrease of 10.5% at the smallest (Category 1) institutions.

Table 4 shows the number of graduate assistants (service required) for 1973 and 1974, and shows that the number of graduate assistants increased in all categories of institution and at a slightly faster rate at master's institutions than at Ph.D. institutions. Increases at private master's institutions were consistent across all size categories, while increases at public master's institutions were found in all size categories except the largest (Category 4) which experienced a 9.0% decrease, offsetting the large

(16.6%) increases in Category 2 institutions. Public Ph.D. institutions experienced increases in all size categories, while private Ph.D. institutions showed slight increases in all size categories except Category 2, which showed a decrease of 2.4%

Table 5 shows the number of graduate fellows (service required) for public and private institutions for 1973 and 1974. As can be seen from the table, public institutions experienced a 6.6% decrease, while the decrease at private institutions was slightly higher, 7.4%. Decreases were experienced in all size categories of public Ph.D. institutions except the smallest (Category 1), which showed an increase of 6.8%; similarly, decreases were experienced in the largest size categories of private Ph.D. institutions (Category 3 decrease: 9.2%; Category 4 decrease: 10.3%), while the smaller institutions experienced slight increases (Category 1 increase: 2.3%; Category 2 increase: 1.5%).

Due to the small number of fellowship involved, separate figures are not shown for master's highest institutions, whose fellowships are included in the appropriate category of public or private institution. Yet, despite these small numbers, it is of note that the 17 private master's institutions (response rate = 61%) showed an 11.3% increase in the number of fellowships (1973: 141; 1974: 157) and the 36 public master's institutions (response rate = 72%) showed a 17.2% increase in the number of fellowships (1973: 290; 1974: 340). Thus, although the decrease in fellowships between 1973 and 1974 was 6.9% for all institutions, the decrease at Ph.D. institutions was 7.1%, offset by an increase of 15.3% at master's institutions.

The number of master's degrees awarded (Table 6) increased slightly (1.9%) between 1973 and 1974, with the number of master's degrees awarded increasing at both public master's institutions (8.8%) and at public Ph.D. institutions (2.2%) for an overall increase in the public sector of 3.3%. In the private sector, the number of master's degrees awarded showed a slight decrease of 1.0% caused by a decrease at private Ph.D. institutions of 1.8% which offset an increase at private master's institutions of 3.2%. Increases or decreases were quite consistent within categories regardless of institutional size: all size categories of public master's institutions showed increases, and all size categories of private Ph.D. institutions showed decreases. At private master's institutions, all size categories except Category 3 (decrease: 5.3%) showed increases, and at public Ph.D. institutions, all size categories except Category 4 (decrease: 0.7%) also showed increases.

Unlike the results of past surveys, this year's survey showed an absolute decline (1.9%) in the number of Ph.D.'s awarded. In the private sector, all size categories except Category 3 (increase: 3.6%) showed decreases with an overall decrease of 1.7%. In the public sector, all size categories except the largest (Category 4) showed increases, with the decrease in Category institutions of 4.7% offsetting other increases for an overall decrease of 1.9%.

Finally, Table 8 indicates a breakdown of full- and part-time students for those institutions reporting. The table indicates that the proportion of part-time students has increased slightly at both public and private in-

stitutions since 1973. In fact, with the single exception of the largest (Category 4) private master's institutions—at which the proportion of part-time students dropped by 1%—all size categories of institutions—public, private, master's, and Ph.D.—showed either a constant or increasing proportion of part-time students since 1973. Viewed from another perspective, the proportion of part-time students at master's institutions rose from 78% in 1973 to 80% in 1974, while the proportion of part-time students at Ph.D. institutions rose from 49% in 1973 to 50% in 1974.

Conclusions

Once again, the first part of the CGS-GRE Board Survey of Graduate School Enrollment has met with great success in terms of the number of participating institutions and, accordingly, in terms of the value of the data which has been generated. Due to the continuing high institutional response rate and extreme representativeness of the sample, the results would appear to be highly valid in ascertaining short-term trends in American graduate education.

Several results are worthy of specific note. First, the survey shows both total graduate school enrollment and first-time graduate enrollments continuing to increase, with the largest proportional increases appearing at smaller master's institutions and the smallest proportional increases appearing at private Ph.D. institutions. Second, the survey has provided for the first time nationally-based data concerning the number of applications received for graduate study, data which show an increase in applications consistent with the increases noted in both total and first-time enrollment. Third, the survey shows a continuing increase in the number of graduate assistantships awarded, and a continuing decrease in the number of graduate fellowships. Somewhat surprisingly, the proportional increase in assistantships is greater at master's institutions than at Ph.D. institutions, while there is an absolute increase in fellowships at master's institutions despite the significant (7.1%) decrease at Ph.D. institutions. Fourth, the survey showed an absolute decline in the number of Ph.D.'s awarded at both public and private institutions.

All in all, the results of this survey would appear to support the conclusion that, while graduate education on the whole is not constricting, the effects of pressure on enrollment and falling financial support are clearly more pronounced in the private sector, particularly at the private Ph.D. institutions. Despite large increases in total enrollment, first-time enrollment, applications, and assistantships in private master's institutions, the increases in the public sector as a whole remain greater than the increases in the private sector as a whole. And, where decreases are seen—as in the number of graduate fellows—the decreases in the public sector as a whole remain smaller than the decreases in the private sector as a whole.

Finally, it seems important that information of this type continue to be collected, not only in order to provide the rapid reporting of short-term trends available in this paper but also to provide the basis for longer-term

analysis such as the 1971-1974 analysis which will be published within the next two months. Only through the continued support and cooperation of the graduate community has this valuable addition to the total pool of information about graduate education become possible; continued comments and criticisms are welcomed.

December 5, 1974

*For reference purposes, this report is also issued as "CGS Communicator Special Report #3, December, 1974."

Table I

Total Graduate School* Enrollment by Type of Institution

	Number	%**	1973	1974	% Change
Public — Master's Highest	45	90%	98,198	101,952	3.8% increase
Private — Master's Highest	25	89%	19,090	20,645	8.1% increase
Public — Ph.D. Highest	136	90%	397,781	418,718	5.3% increase
Private — Ph.D. Highest	76	87%	123,136	124,102	0.7% increase
Master's Highest	70	90%	117,288	122,597	4.5% increase
Ph.D. — Highest	212	89%	520,917	542,820	4.2% increase
Public — Master's and Ph.D.	181	90%	495,979	520,670	5.0% increase
Private — Master's and Ph.D.	101	88%	142,226	144,747	1.8% increase
Total	282	89%***	638,205	665,417	4.3% increase

* For purposes of this survey, institutions were asked to include all students considered as registered in the graduate school, including education, engineering, social work, medical and business programs leading to MA/MS or Ph.D., Ed.D., or other doctorates.

** Percentage figures are the number of institutions responding to this question as a percentage of the number available in the total group. For example, 45 Public Master's Highest Degree institutions responded out of a possible 50 such institutions in the CGS membership for a 90% response rate for that group of institutions.

*** Based on the computations described under Sample Description, the 282 institutions responding to this question represent 89% of the CGS institutions and accounted for approximately 86% of the 1973 total student enrollment at CGS institutions.

Table 2

First Time Graduate Enrollment by Type of Institution

	Number	%	1973	1974	% Change
Public — Master's Highest	38	76%	21,062	21,900	4.0% increase
Private — Master's Highest	25	89%	4,986	5,473	9.8% increase
Public — Ph.D. Highest	124	82%	98,892	107,747	9.0% increase
Private — Ph.D. Highest	74	85%	37,053	39,199	5.8% increase
Master's Highest	63	81%	26,048	27,373	5.1% increase
Ph.D. Highest	198	83%	135,945	146,946	8.1% increase
Public — Master's and Ph.D.	162	81%	119,954	129,647	7.9% increase
Private — Master's and Ph.D.	99	86%	42,039	44,672	6.3% increase
Total	261	83%	161,993	174,319	7.6% increase

* Based on the computations described under Sample Description, the 261 institutions responding to this question represent 83% of the CGS institutions and accounted for approximately 79% of the 1973 total student enrollment at CGS institutions.

Table 3
Number of Applications for Graduate Study

	Based on Institutions providing data for both 1973 and 1974			Based on all Responding institutions		
	Number	%	1973	1974	% Change	Number % 1974
Public — Master's Highest	28	56%	33,396	38,046	13.9% increase	31 62% 46,468
Private — Master's Highest	19	68%	7,320	8,366	14.3% increase	21 75% 8,916
Public — Ph.D. Highest	93	62%	284,219	296,039	4.2% increase	113 75% 328,811
Private — Ph.D. Highest	64	74%	123,284	127,090	3.1% increase	68 78% 144,006
Master's Highest	47	60%	40,716	46,412	14.0% increase	52 67% 55,384
Ph.D. Highest	157	68%	407,503	423,129	3.8% increase	181 76% 472,817
Public—Master's and Ph.D.	121	60%	317,615	334,085	5.2% increase	144 72% 375,279
Private—Master's and Ph.D.	83	72%	130,604	135,456	3.7% increase	89 77% 152,922
Total	204	65%*	448,219	469,541	4.6% increase	233 74% 528,201

* Based on the computations described under Sample Description, the 204 institutions providing data for both years represent 65% of the CGS institutions and accounted for approximately 62% of the 1973 total student enrollment at CGS institutions. The 233 institutions providing 1974 data represent 74% of the CGS institutions and accounted for approximately 71% of the 1973 total student enrollment at CGS institutions.

Table 4

Number of Graduate Assistants (Service Required)

	Number	%	1973	1974	% Change
Public — Master's Highest	43	86%	4,337	4,489	3.5% increase
Private — Master's Highest	24	86%	547	567	3.6% increase
Public — Ph.D. Highest	125	83%	81,931	84,639	3.3% increase
Private — Ph.D. Highest	72	83%	21,249	21,348	0.4% increase
Master's Highest	67	86%	4,884	5,056	3.5% increase
Ph.D. Highest	197	83%	103,180	105,987	2.7% increase
Public — Master's and Ph.D.	168	84%	86,268	89,128	3.3% increase
Private—Master's and Ph.D.	96	83%	21,796	21,915	0.5% increase
Total	284	84%*	108,064	111,043	2.8% increase

* Based on the computations described under Sample Description, the 264 institutions responding to this question represent 84% of the CGS institutions and accounted for approximately 78% of the 1973 total student enrollment at CGS institutions.

Table 5

Number of Graduate Fellows (Nonservice Required)					
	Number	%	1973	1974	% Change
Public —	153	76%	24,095	22,510	6.6% decrease
Private —	89	77%	16,604	15,379	7.4% decrease
Total	242	77%*	40,699	37,889	6.9% decrease

Table 6

Number of Master's Degrees					
	Number	%	1972-73	1973-74	% Change
Public —	181	90%	119,487	123,412	3.3% increase
Private —	100	87%	38,283	37,882	1.0% decrease
Total	281	89%**	157,770	161,294	1.9% increase

* Based on the computations described under Sample Description, the 242 institutions responding to this question represent 77% of the CGS institutions and accounted for approximately 72% of the 1973 total student enrollment at CGS institutions.

** Based on the computations described under Sample Description, the 281 institutions responding to this question represent 89% of the CGS institutions and accounted for approximately 86% of the 1973 total student enrollment at CGS institutions.

Table 7

	Number	Number of Ph.D. Degrees		1973-74	1974-75	% Change
			%			
Public —	136	90%		19,964	19,566	1.9% decrease
Private —	76	87%		8,368	8,225	1.7% decrease
Total	212	89%*		28,332	27,791	1.9% decrease

Table 8

Full-Time—Part-Time Total Enrollment

	1973		1974	
	Number	%	Number	%
Public—	166	83%	191,824	45%
Private—	99	86%	237,231	55%
Total	265	84%***	70,217	52%
			307,448	54%
			262,208	44%
			330,976	56%

* Based on the computations described under Sample Description, the 212 institutions responding to this question represent 89% of the Ph.D. highest institutions in CGS and accounted for approximately 73% of the 1973 total student enrollment at all CGS institutions.

** Institutions were directed to apply their own institutional definitions to "part-time" and "full-time".

*** Based on the computations described under Sample Description, the 265 institutions responding to this question represent 84% of the CGS institutions and accounted for approximately 76% of the 1973 total student enrollment at CGS institutions.

The Constitution of the Council of Graduate Schools in the United States

1. Name

This organization shall be called the Council of Graduate Schools in the United States.

2. Purpose

The Council is established to provide graduate schools in the United States with a comprehensive and widely representative body through which to counsel and act together.

Its purpose is the improvement and advancement of graduate education. The purview of the Council includes all matters germane to this purpose. The Council shall act to examine needs, ascertain best practices and procedures, and render assistance as indicated; it may initiate research for the furthering of the purpose. It shall provide a forum for the consideration of problems and their solutions, and in meetings, conferences, and publications shall define needs and seek means of satisfying them in the best interests of graduate education throughout the country. In this function the Council may act in accordance with the needs of the times and particular situations to disseminate to the public, to institutions, to foundations, to the federal, state, and local governments, and other groups whose interest or support is deemed of concern, information relating to the needs of graduate education and the best manner of satisfying them.

In the analysis of graduate education, in the indication of desirable revision and further development, in the representation of needs and all other functions related to effecting its purpose, the Council not only shall be free to act as an initiating body, but it shall assume direct obligation for so doing.

3. Membership

Institutions applying for membership shall be considered in the light of the following criteria:

- a. Applicants for membership must be accredited by the appropriate regional accrediting agency as a college or university approved for the offering of graduate work.
- b. Applicants must have conferred at least thirty degrees of Master of Arts or Master of Science or ten Doctor of Philosophy degrees, or appropriate combination, within the three-year period preceding application.

- c. The degrees conferred must be adequately distributed over at least three distinct disciplines, such as but not limited to:

agriculture	electrical engineering	music
anthropology	English	pharmacology
astronomy	entomology	philosophy
bacteriology	fine arts	physics
biochemistry	French	physiology
botany	geography	political science
chemical engineering	geology	psychology
chemistry	German	Russian
civil engineering	history	sociology
classics	mathematics	Spanish
economics	mechanical engineering	zoology

The Committee on Membership shall consider all applications in the light of these criteria and make appropriate recommendations to the Executive Committee. The Executive Committee shall take final action on all applications for membership and shall report such action at each Annual Meeting.

The Executive Committee may invite and approve application by foreign institutions of good standing for affiliation with the Council if such institutions meet all criteria for membership except accreditation by an American regional accrediting agency. Such affiliates will be extended all the courtesies of membership except the privilege of voting.

4. *Voting Power*

In all activities of the Council, each member institution shall have one vote.

More than one representative of any institution may attend the meeting of the Council, but the member's vote shall be cast by the individual designated as the principal representative of the member by the chief administrative officer of the member institution.

5. *Officers and Executive Committee*

The officers of the Council and the Executive Committee shall be a Chairman, a Chairman-Elect, and the immediate Past Chairman, each serving for a term of one year. In the absence of the Chairman, the Chairman-Elect shall be the presiding officer of the Executive Committee and the Council.

There shall be an Executive Committee of twelve voting members, composed of the Chairman, the Chairman-Elect, the Past Chairman and nine members-at-large. Three members-at-large shall be elected by the Council at

each Annual Meeting for terms of three years each, beginning immediately after the Annual Meeting.

The Chairman-Elect, chosen by the Executive Committee from its own past or present membership, shall serve in that capacity for one year. The following year, he will assume the office of Chairman, and the following year, the office of Past Chairman.

Each voting member of the Executive Committee must be the principal representative of a member of the Council and none may serve for two consecutive full terms.

If the Chairman is unable to continue in office, the Chairman-Elect shall succeed immediately to the chairmanship, and the Executive Committee shall choose a new Chairman-Elect.

Any vacancies occurring among the membership-at-large of the Executive Committee shall be filled by the Executive Committee until the next Annual Meeting, at which time the Council shall elect a replacement for the balance of the term.

6. *Executive Officers*

The chief executive officer of the Council shall be a President, who shall be a salaried officer, appointed by the Executive Committee and serving at its pleasure. The President shall serve as an *ex-officio* member of the Executive Committee without a vote.

7. *Duties and Powers of the Executive Committee*

In addition to the duties and powers vested in the Executive Committee elsewhere in this Constitution, the Executive Committee may, specifically: employ such staff and establish such offices as may seem necessary; incorporate; undertake itself, or through its agents, to raise funds for the Council and to accept and expend monies for the Council; take initiative and act for the Council in all matters including matters of policy and public statement except where limited by this Constitution or by actions of the Council.

8. *Committees*

In addition to the Executive Committee, there shall be (1) a Nominating Committee, (2) a Committee on Membership, whose members shall not be members of the Executive Committee, and (3) such other standing committees as may be established by the Executive Committee.

Except for the Nominating Committee, all standing committees and *ad hoc* committees shall be appointed by the Chairman with the advice and consent of the Executive Committee.

The Nominating Committee shall consist of five members of whom three shall be elected each year by the Council at its annual meeting, and two shall be the members-at-large of the Executive Committee who are completing their terms. The Chairman shall be elected by the Committee.

At least two weeks before each annual meeting of the Council, the Nominating Committee shall propose to the members of the Council one nominee for each member-at-large position of the Executive Committee to be filled and three nominees for members of the Nominating Committee. These nominations shall be made only after suggestions accompanied by supporting vitae have been solicited from the membership-at-large.

At the annual business meeting of the Council, additional nominees may be proposed from the floor. The election will then be held, and the nominees receiving the largest number of votes for the positions to be filled shall be declared elected.

9. *Meetings*

The Council shall hold an Annual Meeting at a time and place determined by the Executive Committee. The Council may meet at other times on call of the Executive Committee.

The Executive Committee shall be responsible for the agenda for meetings of the Council. Reports and proposals to be submitted for action by the Council shall be filed with the Executive Committee before they may be submitted for general discussion by the Council. No legitimate report or proposal may be blocked from presentation to the Council, but action on any proposal may not be taken until the Executive Committee has had an opportunity to make a recommendation.

In matters not provided for in this Constitution parliamentary procedure shall be governed by *Robert's Rules of Order, Revised*.

10. *Limitation of Powers*

No act of the Council shall be held to control the policy or line of action of any member institution.

11. *Dues*

Membership dues shall be proposed by the Executive Committee and must be approved by the majority of the membership after due notice.

12. *Amendments*

Amendments to this Constitution may be proposed by the Executive Committee or by written petition of one-third of the members. However they originate, proposals for amendment shall be received by the Executive Committee and forwarded with recommendations to the members, in writing, at least ninety days before the meeting at which they are to be voted upon or before formal submission to the members for a mail ballot. To be adopted, proposed amendments must receive the approval of a two-thirds majority of the members voting at the announced meeting or on the designated mail ballot.

13. *Bylaws*

Bylaws may be established by the Executive Committee at any regular or special meeting, subject to ratification by a simple majority vote of the Council at the next Annual Meeting.

BYLAWS

1. In conformity with Article 6 of the Constitution, the President of the Council of Graduate Schools in the United States shall be paid an annual salary to be determined by the Executive Committee plus such perquisites as may be necessary for the proper conduct of the office and such travel as may be deemed essential. The President is authorized to employ such additional personnel as is, in his judgment, necessary for the proper conduct of the office, to establish bank accounts in the name of the Council of Graduate Schools in the United States, and to draw checks and invest monies against the Council's account or accounts, subject to an annual audit of the books of the Council by a Certified Public Accountant and approval by the Executive Committee.
2. The Riggs National Bank of Washington, D.C., is hereby designated a depository for the funds of this association and the said bank is hereby authorized and directed to pay checks and other orders for the payment of money drawn in the name of this association when signed by the President and the said shall not be required in any case, to make inquiry respecting the applications of any instrument executed in virtue of this resolution, or of the proceeds therefrom, nor be under any obligation to see in the application of such instruments of proceeds.
3. In the event of the dissolution of the Council of Graduate Schools, all then existing assets of the Council shall be distributed in equal parts to the institutions which will at the time be members of the Council.
4. After January 1, 1969, the fiscal year of the Council of Graduate Schools in the United States will correspond to the calendar year. (Prior to this date, the fiscal ran from April 1 through March 31.)
5. In the event of the death or disability of the President of the Council, the Chairman shall immediately call a meeting of the Executive Committee to select an Acting President, who shall assume the responsibilities of the President, as they are specified in Article 6 of the Constitution and in Bylaws 1 and 2, until the appointment of a new President.

PROCEDURAL POLICIES

1. Annual meetings of the Council shall be held during or near the first week of December.
2. If a member resigns, it must reapply for admission in the normal way if it wishes to resume membership.
3. Membership or affiliation, with or without vote, of non-academic institutions, associations, or foundations is undesirable.
4. Institutions accepted to membership prior to September 1 in any given year are required to pay dues for that fiscal year.

The Council of Graduate Schools in the United States

Member Institutions

Abilene Christian College	California State University at Northridge
Adelphi University	California State University at Sacramento
Air Force Institute of Technology	California State University at San Diego
Alfred University	California State University at San Francisco
*American University	California State University at San Jose
Andrews University	*Carnegie-Mellon University
Appalachian State University	*Case Western Reserve University
Arizona State University	*Catholic University of America
Arkansas State University	Central Michigan University
Atlanta University	Central Missouri State University
Auburn University	Central Washington State College
Ball State University	Chicago State University
Baylor College of Medicine	The City College of the City University of New York
Baylor University	The City University of New York
*Boston College	*Claremont University Center
Boston University	*Clark University
Bowling Green State University	Clarkson College of Technology
Bradley University	Clemson University
*Brandeis University	Cleveland State University
Bridgewater State College	Colgate University
Brigham Young University	College of Saint Rose
Brooklyn College of the City University of New York	College of William and Mary
*Brown University	Colorado School of Mines
*Bryn Mawr College	Colorado State University
*California Institute of Technology	*Columbia University
California State Polytechnic University, Pomona	Connecticut College
California State University at Chico	*Cornell University
California State University at Fresno	Creighton University
California State University at Fullerton	Dartmouth College
California State University at Hayward	DePaul University
California State University at Long Beach	Drake University
California State University at Los Angeles	Drexel University
	*Duke University
	Duquesne University

- East Carolina University
 East Tennessee State University
 East Texas State University
 Eastern Illinois University
 Eastern Kentucky University
 Eastern Michigan University
 *Emory University
 Federal City College
 Fisk University
 Florida Atlantic University
 *Florida State University
 Florida Technological University
 *Fordham University
 Fort Hays Kansas State College
 George Peabody College
 George Mason University
 *George Washington University
 *Georgetown University
 Georgia Institute of Technology
 Georgia Southern College
 Georgia State University
 Hahnemann Medical College and
 Hospital of Philadelphia
 *Harvard University
 Hebrew Union College
 Hofstra University
 Holy Names College
 Howard University
 Hunter College of the
 City University of New York
 Idaho State University
 *Illinois Institute of Technology
 Illinois State University
 Immaculate Heart College
 Indiana State University
 *Indiana University
 Indiana University of Pennsylvania
 *Iowa State University
 John Carroll University
 *Johns Hopkins University
 Kansas State College of Pittsburg
 Kansas State Teachers College
 *Kansas State University
 Kent State University
 Lamar University
 *Lehigh University
 Loma Linda University
 Long Island University
 *Louisiana State University
 Louisiana Tech University
 Lowell Technological Institute
 *Loyola University of Chicago
 Loyola University of Los Angeles
 Mankato State College
 Marquette University
 *Massachusetts Institute of
 Technology
 Medical College of Georgia
 Medical College of Pennsylvania
 Medical University of South Carolina
 Medical College of Virginia
 Medical College of Wisconsin
 Memphis State University
 Miami University
 *Michigan State University
 Michigan Technological University
 Middle Tennessee State University
 Mississippi College
 Mississippi State University
 Montana State University
 Montclair State College
 Morgan State College
 Murray State University
 Naval Postgraduate School
 New Mexico Institute of Mining
 and Technology
 New Mexico State University
 *New School for Social Research
 *New York University
 Newark College of Engineering
 Niagara University
 North Carolina Central University
 *North Carolina State University
 at Raleigh
 North Dakota State University
 North Texas State University
 Northeast Louisiana University
 Northeastern Illinois University
 Northeastern University
 Northern Illinois University
 Northwestern State University
 *Northwestern University
 Oakland University
 *Ohio State University

Ohio University
 *Oklahoma State University
 Old Dominion University
 *Oregon State University
 *Pennsylvania State University
 Pepperdine University
 *Polytechnic Institute of New York
 Pratt Institute
 *Princeton University
 *Purdue University
 Queens College of the
 City University of New York
 *Rensselaer Polytechnic Institute
 Rhode Island College
 *Rice University
 *Rockefeller University
 Roosevelt University
 *Rutgers, The State University
 Saint Cloud State College
 *Saint John's University
 *Saint Louis University
 Saint Mary's University
 Sam Houston State University
 Samford University
 Seattle University
 Seton Hall University
 Shippensburg State College
 South Dakota State University
 Southern Illinois University
 at Carbondale
 Southern Illinois University
 at Edwardsville
 Southern Methodist University
 Southern University and
 A&M College
 Southwest Texas State University
 *Stanford University
 State University College at
 Fredonia
 State University College at Geneseo
 State University College at Oneonta
 State University of New York
 at Albany
 State University of New York
 at Binghamton
 *State University of New York
 at Buffalo

State University of New York—
 Downstate Medical Center
 State University of New York
 at Stony Brook
 Stephen F. Austin State University
 Stetson University
 Stevens Institute of Technology
 *Syracuse University
 *Temple University
 Tennessee State University
 Tennessee Technological
 University
 *Texas A&M University
 Texas Christian University
 Texas Southern University
 Texas Tech University
 Texas Woman's University
 Thomas Jefferson University
 Trinity University
 Tufts University
 *Tulane University
 Tuskegee Institute
 United States International
 University
 Utah State University
 *Vanderbilt University
 Villanova University
 *Virginia Polytechnic Institute
 Wake Forest University
 Wagner College
 *Washington State University
 *Washington University
 *Wayne State University
 Wesleyan University
 West Texas State University
 *West Virginia University
 Western Carolina University
 Western Illinois University
 Western Kentucky University
 Western Michigan University
 Western State College of Colorado
 Western Washington State College
 Wichita State University
 William Patterson College
 Winthrop College
 Worcester Polytechnic Institute
 Wright State University

- Xavier University
- *Yale University
- Yeshiva University
- Youngstown State University
- University of Akron
- *University of Alabama
- University of Alabama at Birmingham
- University of Alabama at Huntsville
- *University of Arizona
- University of Arkansas
- *University of California at Berkeley
- University of California at Davis
- University of California at Irvine
- University of California at Los Angeles
- University of California at Riverside
- University of California at San Diego
- University of California at Santa Barbara
- *University of Chicago
- *University of Cincinnati
- *University of Colorado
- University of Connecticut
- University of Dayton
- *University of Delaware
- *University of Denver
- University of Detroit
- *University of Florida
- University of Georgia
- University of Hawaii
- University of Houston
- University of Idaho
- University of Illinois at Chicago Circle
- University of Illinois at the Medical Center
- *University of Illinois at Urbana-Champaign
- *University of Iowa
- *University of Kansas
- *University of Kentucky
- University of Louisville
- University of Maine
- *University of Maryland
- University of Massachusetts
- University of Miami
- *University of Michigan
- University of Minnesota
- University of Mississippi
- University of Missouri at Columbia
- University of Missouri at Kansas City
- University of Missouri at Rolla
- University of Missouri at St. Louis
- University of Montana
- *University of Nebraska
- University of Nebraska at Omaha
- University of Nevada
- University of Nevada at Las Vegas
- University of New Hampshire
- University of New Mexico
- University of New Orleans
- *University of North Carolina at Chapel Hill
- University of North Carolina at Charlotte
- University of North Carolina at Greensboro
- *University of North Dakota
- University of Northern Colorado
- University of Northern Iowa
- *University of Notre Dame
- *University of Oklahoma
- *University of Oregon
- University of the Pacific
- *University of Pennsylvania
- *University of Pittsburgh
- University of Rhode Island
- University of Richmond
- *University of Rochester
- University of San Francisco
- University of Santa Clara
- University of Scranton
- University of South Alabama
- University of South Carolina
- University of South Dakota
- University of Florida
- *University of Southern California
- University of Southern Mississippi
- University of Tennessee Medical Units

*University of Tennessee System
University of Texas at Arlington
*University of Texas at Austin
University of Texas Health
Science Center, San Antonio
University of Toledo
University of Tulsa

*University of Utah
University of Vermont
*University of Virginia
*University of Washington
*University of Wisconsin
University of Wisconsin-Milwaukee
*University of Wyoming

*Founding institutions